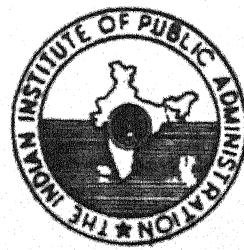


MANAGEMENT EXCELLENCE IN PUBLIC ENTERPRISES

A Study Sponsored by Bureau of Public Enterprises

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PREFACE

The Bureau of Public Enterprises (BPE) entrusted the Study - "Management Excellence in Public Enterprises" to the Indian Institute of Public Administration (IIPA) for scientifically enquiring-what makes an organisation to function more effectively in the context of working of the Central Public Sector Enterprises. The scope of theme and methodology of the Study were defined by the Study Team after thorough literature search and discussions with several academics and practitioners. The details of the study background, objectives and scope have been described in Chapter 1- The Prologue. An overview on the performance of public enterprises has been given in Chapter 2.

On the basis of long term performance (1974-84) analysis on seven selected indices, 146 production enterprises were divided in high and low performing categories. For objectively selecting a few enterprises from both the groups for in-depth study, the Study Team developed an unique and exciting methodology which has been elaborated in Chapter 3 - Selection Methodology. With this methodology the overall and individual indices ranks, computed from 1974-75 to 1983-84 performance data, of 146 production enterprises have been indicated in Appendix I.

To identify distinctive characteristics of management practices in high and low performing enterprises, McKinsey model of organisational study was used with minor adjustments keeping in view the requirement of the Study and environment of work of these enterprises. The framework of analysis and description of variables of managerial excellence have been elaborated in Chapter 4.

The Study has been an odyssey of professional learning with many contours including re-learning. We had to put a lot of muscle to create a very logical order of extremely complex and disjointed information received on the working of these enterprises. We learnt how public undertakings function in management process terms. We also learnt how chief executives perceive their organisation and how such perceptions are at variance with those of other executives.

While designing questionnaires to obtain perception based responses we have adopted eclectic approach and desired to have incidents illustrative of some unique organisational dimensions. The questionnaire design and details have been given in Chapter 5. Unfortunately, many of the responding executives were unable to come up with recollections of such

outstanding events. The required information was received after repeated requests from the BPE and follow-up letters and telegrams from the IIPA.

Analysis of responses shows that organisations which are greatly proficient in many management process dimensions sometimes falter because of external factors beyond their control. Sometimes enterprises with merely average capabilities in managerial terms are catapulted into success. All companies had their distinctive competencies and business situations they faced with were unique. Every case appeared different and no generalisations seem possible. Any claim to the effect that scientific management will deal with all these uncontrollable variables and will positively lead to organisational effectiveness is to ignore the reality of very significant impact of the government policy, market characteristics and other regulatory environments. Each organisation is an amalgam of its distinctive products, markets, users, environment and its people's beliefs, values and styles. It requires professional guts to confront the organisational realities and to deal with them. The differences in the levels of performance to some extent

can be explained by the manner and degree to which various management concepts and techniques are practised. Due to influx of management literature and wide variety of management improvement training programmes there seems to be considerable awareness of the factors and processes which contribute to managerial excellence. For instance, respondents from both high and low performing enterprises claim to be committed to team briefing practice and adopt participative leadership style. The extent to which it was a myth or reality, was difficult to assess. Evidence was not wanting to show that in some cases the claim was hollow rhetoric. The study had relied on written questionnaire methodology and this approach did not reveal differences between precepts and practices. For paucity of time and resources the Study Team could not test or supplement the findings by discussion with the concerned executives and by observation of their practices. It is extremely important and necessary to interact with the top/senior managers and discuss with them the factors which have contributed to managerial effectiveness. The analysis of information and findings on the six variables of managerial excellence viz., Strategy, Style, Culture, Structure, Staff and Skills, and Systems and Procedures have been given in Chapter 6 to 11. A synthesis of findings have been

given in Chapter 12. Appendices II to XV give brief writeups about 14 selected undertakings. Appendix XVI contains viewpoints expressed by some of the past CMDs on leadership style and culture.

We are indebted to the Director of the IIPA for extending all possible support from the Institute and encouragement for the Study; and for cheerfully appreciating our difficulties in completing the voluminous and complex work involved. The Study required single-minded attention throughout our working hours. We hope that the study outcome would be of value to the BPE and executives of the public sector enterprises. We are fully satisfied that the Study outcome justifies in many ways the efforts put in for the same. We are also grateful to the officers of the BPE who have given their ungrudging support in different stages of the Study and have afforded us this opportunity of developing understanding and insights about factors which contribute to managerial excellence in the public sector undertakings operating in India.

Prof. Ram Prakash
Study Director

1. THE PROLOGUE

Introduction

1.1 The Bureau of Public Enterprises (BPE), in January 1985, invited Research Study Proposals on problems of common relevance to public sector enterprises from different national institutions for sponsorship and financial support. The Indian Institute of Public Administration (IIPA) showed interest to undertake a study which might throw light on some of the aspects relating to achievement of managerial excellence in public enterprises.

1.2 The proposal invoked interest of the BPE and the IIPA was asked to prepare a detailed research design indicating the rationale, objectives, scope of work, mechanics and time schedule of the Study. Accordingly, a detailed Study Proposal was submitted by IIPA and approved by the BPE. The Study commenced from November 1, 1985.

Rationale

1.3 Massive investments had been made and continue to be made every year in public enterprises. These enterprises differ widely in their background, history of development, technology, nature of goods produced and services rendered. The Five Year Plans emphasise that the large investments made in these enterprises should yield adequate returns

for further growth and development in addition to serving the purposes for which these were established. The quality of performance of an enterprise depends on several organisation and situation specific interacting and inter-dependent variables.

1.4 For researchers, it has been a central theme of analysis, experimentation and design to ascertain how the organisations can be made to function more effectively. Considerable scope of research continues to exist to answer questions like - How does one corporation make handsome profit and another go bankrupt? How does one non-profit agency get abolished and another exert a dynamic force for social betterment? Human endeavour has always been in search of a breakthrough under the most adverse conditions. Despite the complaints of many workers, accusations of wastes and inefficiencies and ups and downs in organisations, the managers manage to combine the efforts of diverse individuals. Some managers are more effective than others, but comparatively few meet with disaster. Most managers settle for "reasonably" good performance. However, a small minority has always been reluctant to settle around reasonable level of performance. They have endeavoured to achieve excellence and showed how to apply their techniques to organisational management. By very definition, excellence is for a few; the great

majority settles around reasonable performance. Apart from this, what was excellence earlier becomes subsequently an accepted standard. In sixties, Douglas McGregor's Theory 'X' and 'Y' of human behaviour was new, bold and unproven. Today, the entire approach to organisation development revolves around basic principles enunciated by him.

1.5 The work of Thomas J. Peters and Robert H. Waterman - "In Search of Excellence : Lessons from America's Best run Companies" : invoked worldwide interest in the subject of management excellence and the book became the best seller of 1982-83. "The Winning Streak" by Walter Goldsmith and David Clutterbuck analysed the management practices of top companies of Britain. Prof. S.K. Bhattacharya in his book "Achieving Managerial Excellence: Insights from Indian Organisations" (1989) made an analytical study of managerial excellence in six private companies, three public sector undertakings and one cooperative. Indian Institutes of Management made some studies on the subject in respect of selected companies in private sector. Several micro level studies were also made in private sector companies on aspects which have a bearing on managerial excellence.

1.6 A number of studies have been made in respect of public sector enterprises in India by the Bureau of Public Enterprises, Committees of Parliament on Public Undertakings,

Institutions and professionals. Policy issues have been a subject of enquiry with three high powered Committees/Commission in 80's viz., (i) the Expert Committee on Public Enterprises (August 1980 - April 1982) popularly known as Fazal Committee; (ii) the Economic Administration Reforms Commission on Government and Public Enterprises headed by Shri L.K Jha (1983), and (iii) the Committee to Review Policy for Public Enterprises headed by Dr. Arjun Sengupta (1984). Reforms suggested by these committees/commission have helped in more effective management of public enterprises. The Jha Commission had suggested that in their day-to-day working the public enterprises should be free from interference by the Government. The Arjun Sengupta Committee advocated reduction in the ministerial control on public enterprises. A system has recently been evolved to prepare a Memorandum of Understanding between the Public Undertakings and the Government on expectation of management performance. By and large, the studies concerning public sector enterprises relate to their status, overall performance and individual indicators, but no known study had been made on integrated indicators contributing to organisational excellence. In India, we have pockets both of high and low performing enterprises in the public sector. Many competent managers that set out to achieve under difficult conditions

did achieve and create blue-ribbon companies, while others could not do that well due to various constraints. In the context of working of Public Enterprises, what makes an organisation to excel in performance as compared to others needed to be scientifically enquired. The experiences of better methods of doing things leading to excellence needed to be investigated, identified and documented.

1.7 This Study was planned to subserve this need and was titled as "Management Excellence in Public Enterprises". It was kept in mind that excellence was the result of various variables like national policy, proprietary technology, control on raw materials and market dominance. It was also assumed that apart from these external forces, the public sector enterprises were susceptible to diverse internal compulsions. Despite these constraints, the managers have considerable freedom to lead and act for achieving excellence.

Objectives

1.8 The term 'Management Excellence' for the purpose of this study is used to connote better methods of doing things. This study was designed to indicate important ingredients which help in high performance. It has been conducted from managerial and organisational point of view to help in seeking replies to the following questions:

- i) How are some public sector undertakings able to derive extraordinary performance from a person of average calibre?
- ii) Why does one organisation do extraordinarily well while another similar one cannot rise above mediocrity?
- iii) What can be learnt from the management of highly achieving public sector organisations?
- iv) To what extent the organisation specific cultural attributes contribute to excellence in performance?
- v) How far top leadership qualities in styles of management account for excellence in organisational performance?

1.9 An in-depth analysis of both high and low performing enterprises has been made so that certain attributes which tend to help in achieving excellence and absence of which might lead to low performance, could be identified. The Study is expected to:

- i) help in developing policy guidelines for management excellence in Public Enterprises;
- ii) assist in adopting effective management practices and installing efficient systems and procedures;
- iii) provide indication for organising management improvement programmes for performance excellence; and
- iv) indicate areas for future research of practical significance.

Scope of Study

1.10 To capture a fairly broad spectrum of management excellence, a cross section of undertakings were selected from among the then 146 production enterprises. The selected enterprises for in-depth study were from both highly regarded and under-achieving companies. All enterprises had their strengths and weaknesses. Any claim of excellence could not be without fault. The selection made by us was on the basis of certain objective criteria, no matter what prestige and esteem these commanded in public eyes.

1.11 The scope of the Study was confined to identify management practices leading to excellence rather than making an assessment of their performance. Attempt was made to identify what could be learnt from the performance of the selected enterprises. The Study was conducted from management point of view to cover such important aspects as are responsible for high achievement and absence of which leads to low performance. The thrust of the Study is to have a detached analytical look at management excellence for identifying the attributes contributing to high performance.

Mechanics

1.12 The Study was conducted in five broad stages:-

- i) In the first stage, after a thorough literature search and discussions with the academicians criteria were developed for selecting high and low performing enterprises.
- ii) As a second step, data for over a decade was collected and processed on selected criteria from the Public Enterprises Annual Survey Reports of the Bureau of Public Enterprises, and a few high and low performing enterprises were selected.
- iii) In the third stage, the selected enterprises were approached to furnish background material on aspects like Corporate Plan, Organisation Chart, Strengths and Weaknesses Analysis. Action was also simultaneously taken to prepare background papers on the performance of these undertakings for facilitating in-depth study on the basis of available information.
- iv) As a next step, experience and perception based information from Chief Executives and certain other categories of persons in selected undertakings was collected through Questionnaire on aspects which had a bearing

on the management performance. In addition, information on certain specific aspects was also collected through a separate questionnaire from ex-chief executives. The questions were so designed as might provoke the respondents to come up with incidents illustrative of some unique managerial dimension.

- v) On the basis of analysis of information received from the respondents of the selected enterprises some management thoughts and practices relevant to management effectiveness were formulated

Time Schedule

1.13 The completion of the Study took much longer than the stipulated period of twelve months. It had to be suspended for 14 months for want of funds and delayed responses from concerned public enterprises for supply of required information. The Study Team wanted to have intensive in-depth discussions with the executives on the findings of the Study but could not do so for want of time and funds.

The Study Team

1.14 The research staff comprised the following:

Prof. Ram Prakash	:	Study Director
Dr. B.L. Rawat	:	Consultant (Part-time)
Shri Madan Lal	:	Research Fellow
Shri V.N. Srivastava (1.11.85 to 6.10.86)	:	Research Fellow
Shri S.P. Gupta (1.12.88 onwards)	:	Research Associate

2. OVERVIEW OF PUBLIC ENTERPRISES

2.1 A brief resume of genesis, growth and performance of public sector enterprises is necessary for proper appreciation of the study methodology and its outcome.

Genesis

2.2 Public enterprises were started for faster economic and social development and were visualized as important instruments of public policy for building a socialistic pattern of the society in India. The genesis of public undertakings is contained in industrial policy statement of Government of India presented as a White Paper on April 21, 1945, Bombay Plan by a group of industrialists and Congress Party Plan under Pandit Jawahar Lal Nehru at about the same time. Imperial power, industrialists and Pandit Nehru all thought alike that state capital would have to step in the areas which did not offer sufficient attraction to private capital. Panditji called it "Commanding Heights" and Imperial Government referred to it as "Balanced Growth". The operational guidelines were spelt out after Independence in the Avadi Resolution on Socialistic Pattern of Society for India, Industrial Policy Resolution 1948, and Industries (Development and Regulation) Act 1951. Amendments and additions were made in the Industrial

Policy Resolution and in the IDR Act in 1956, 1973, 1977, 1980, and 1984, but role and importance of public enterprises as an instrument of economic growth and progress were never questioned.

Objectives

2.3 The public enterprises have a mixed bag of objectives, the emphasis of which also changes from time to time. The objectives range from profitability, import substitution and backward area development to setting example as model employers. Apart from profitability, the major objectives of public enterprises are to:

- i) help in the rapid economic growth and industrialisation of the country and create the necessary infrastructure for economic development;
- ii) promote redistribution of income and wealth;
- iii) create employment opportunities;
- iv) promote balanced regional development;
- v) assist the development of small scale and ancillary industries; and
- vi) promote import substitution, save and earn foreign exchange for the economy.

Growth

2.4 Over the last 35 years, a phenomenal growth took place in public sector enterprises. Apart from massive increase in state government undertakings, the public enterprises of Central Government have grown from a moderate investment of Rs.29 crores in 1950-51 to Rs.61603 crores in 1986-87. From only 5 enterprises as on 1-4-1951 their number increased to 228 on 31-3-1987, employing more than 22 lakh persons on a regular basis. In 1983-84 these numbered 201 with capital employed to the tune of Rs.29,851 crores. An investment of Rs.30,000 crores (excluding the banking sector) is large by any standard. If it were one company and not 200 plus, it would perhaps rate higher than the international giants in the 'Fortune' list of 900. These undertakings have come to occupy a key position in national economy in several sectors, particularly in Energy, Basic and Non-ferrous Metals, Fertilisers and Communication Equipment. Some of these undertakings are monopoly entities and many others are in oligopoly position. Almost all fuels, non-ferrous metals (excluding aluminium), and a substantial share of the country's production of basic industrial inputs, raw materials and sophisticated engineering products are produced in the public sector. The public enterprises in India embrace a

wide spectrum of activities including manufacturing, trading and services. It has a virtual monopoly in respect of oil, coal, electricity and railways. Except for Tata Iron & Steel Co., the entire integrated manufacturing of steel is in the public sector. In heavy machinery, heavy electricals, machine tools and basic electronics, it accounts for major portion of the total production. Chemicals, fertilisers, drugs and pharmaceuticals, textiles and other consumer goods are also partly in its domain, and so is the case with trading and service activities including exports, imports, food procurement and distribution, banking, insurance and hotels.

2.5 An idea of the magnitude of operation of these enterprises can be formed from available statistics by comparing their sales with those of corporate enterprises in private sector. In 1982-83, the total sales of 193 central government enterprises was Rs.41,989 crores as against the sales of about Rs.50,000 crores of nearly 46,000 private corporate enterprises. The total turnover of the central public enterprises in 1986-87 amounted to Rs.69016 crores. About 55 per cent, of the total investment in public sector is in ten enterprises. Not all public enterprises started as new ventures. Some of them were successful private foreign enterprises which were nationalised. Others

were losing private companies taken over to protect employment. For purpose of this Study no distinction of origin is made.

Performance

2.6 Profitability is the most common yardstick by which the performance of an enterprise is measured. To earn adequate return on investment and thus generate resources for development is an important objective of public enterprises, but it is not the only indicator for assessing how effectively the organisation has been managed. The profile of return on investment of the operating public undertakings for selected years over the period 1974-75 to 1986-87 is given in Annexure I. The quantum of gross margin has progressively increased by about 1,145% from Rs.864 crores in 1974-75 to Rs.9,897 crores in 1986-87. The gross profit over the same period also recorded an upward movement of nearly 1,167% from Rs.559 crores to Rs.6,521 crores.

2.7 During 1984-85, 116 enterprises made net profits before tax amounting to Rs.3,213 crores and in 1986-87 108 enterprises earned Rs.4,802 crores. Ten enterprises (Annexures II (a) and (b)) contributed 76% of the total pre-tax profit in 1984-85 and 77% in 1985-86. It will be seen from Annexure II that a few enterprises within the top ten account for major portion of the profit and their

level of earnings can generate considerable resources for economic development. For instance, in 1984-85, 5 enterprises viz., ONGC, IOC, OIL, BHEL and STC, employing a total capital of about Rs.6,327 crores, made profit before tax of Rs.2,121 crores, which gives a rate of return of 33.5%. The remaining 202 undertakings employing a total capital of Rs.30,063 crores, cumulatively among them made sub-zero profit. Had the said 202 enterprises earned a modest 15% rate of return which is less than half of the leading 5, they could have given to the nation on the total capital employed, a return of Rs.4,509 crores in that year in addition to Rs.2,121 crores of the said big five. This would have meant a total contribution of Rs.6,630 crores to the national exchequer, that is 22% of the plan expenditure (Rs.29,878 crores) in 1984-85. The data of 1986-87 do not reveal a different picture.

2.8 Ninety two enterprises suffered a net after tax loss of Rs.1,094 crores during the year 1984-85. In 1986-87, 101 enterprises incurred a loss of Rs.1,707 crores. The 53 to 55 percent of the total loss is accounted for by top ten enterprises as listed in Annexure III (a) and (b).

2.9 Since assessment of performance is not the objective of this Study, the contributions made by the public enterprises in industrial production, export earning, generation

of internal resources, research and development, growth of ancillary industries etc., are not described. The operational results have been mentioned only to the extent necessary for appreciating the environment of work of public enterprises and methodology of this Study. These undertakings have undoubtedly made significant contribution in achieving the objectives mentioned earlier in para 2.3. But the general impression is that the extent of contribution of the public enterprises, if judged from quantifiable aspects like capacity utilisation, productivity of labour, production vis-a-vis investment, value added, is by and large not to the achievable extent. In general, these enterprises are being operated with high cost and low productivity. Some enterprises do better and some continue to be incorrigible losers.

Annexure - I

PROFITABILITY PROFILE OF PUBLIC ENTERPRISES

(Rs. in crores)

	1974-75	1979-80	1983-84	1984-85	1985-86	1986-87
	1	2	3	4	5	6
No. of running enterprises	120	169	201	207	211	214
Capital employed	6,654	16,182	29,851	36,382	42,965	51,835
Turnover (gross)	10,185	23,290	47,272	54,784	62,360	69,088
Gross margin (surplus before depreciation, interest and tax)	864	2,055	5,770	7,386	8,230	9,897
Depreciation (including deferred revenue expenditure)	305	826	2,205	2,758	2,983	3,376
Gross profit before interest and tax	559	1,229	3,565	4,628	5,287	6,521
Interest	247	1,004	2,086	2,529	3,115	3,420
Net profit before tax	312	225	1,479	2,099	2,172	3,101
Net profit after tax	183	(-)74	240	909	1,172	1,771
Internal resources generated (gross)	580	1,030	3,695	4,251	5,068	6,014

	1974-75	1979-80	1983-84	1984-85	1985-86	1986-87
	1	2	3	4	5	6
Percentage of gross margin to capital employed	13.0	12.7	19.3	20.3	19.2	19.1
Percentage of gross profit to capital employed	8.4	7.6	11.9	12.7	12.3	12.6

Source: (i) Public Enterprises Surveys - Annual Reports: Bureau of Public Enterprises, Ministry of Industry.

(ii) Economic Survey 1988-89- Government of India.

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Annexure - II (a)

TOP TEN PROFIT MAKING ENTERPRISES (1984-85)

Sl. No.	Name of enterprise	Pre-tax profit (Rs. in crores)	Percentage to total pre-tax profit earned by profit making enterprises
1.	Oil & Natural Gas Commission	1627.41	50.65
2.	Indian Oil Corporation Ltd.	162.35	5.05
3.	Oil India Ltd.	159.93	4.98
4.	Bharat Heavy Electricals Ltd.	113.69	3.54
5.	National Thermal Power Corporation Ltd.	87.54	2.72
6.	Indian Petrochemicals Corporation Ltd.	61.02	1.90
7.	State Trading Corpn. of India Ltd.	57.73	1.80
8.	Neyveli Lignite Corpn. Ltd.	57.69	1.80
9.	Indian Airlines	53.34	1.66
10.	The Mineral & Metals Trading Corporation of India Ltd.	52.39	1.63
Total		2433.09	75.73
Total profit earned by profit making enterprises		3213.01	100.00

Source: Public Enterprises Survey-Annual Report: Bureau of Public Enterprises, Ministry of Industry, New Delhi.

Annexure - II (b)

TOP TEN PROFIT MAKING ENTERPRISES (1986-87)

Sl.No.	Name of enterprise	Pre-tax profit (Rs. in crores)	Percentage to total pre-tax profit earned by profit making enterprises
1.	Oil & Natural Gas Commission	2104.96	43.82
2.	Indian Oil Corporation Ltd.	671.22	13.97
3.	National Thermal Power Corporation Ltd.	211.86	4.41
4.	Bharat Heavy Electricals Ltd.	153.00	3.18
5.	Mahanagar Telephone Nigam Ltd.	136.52	2.84
6.	Videsh Sanchar Nigam Ltd.	122.81	2.56
7.	Oil India Ltd.	85.13	1.77
8.	Indian Petrochemicals Corpn. Ltd.	77.70	1.62
9.	Bharat Petroleum Corpn. Ltd.	68.53	1.43
10.	Neyveli lignite Corpn. Ltd.	67.80	1.41
Total		3699.53	77.01
Total profit earned by profit making enterprises		4803.72	100.00

Source: Public Enterprises Survey- Annual Report: Bureau of Public Enterprises, Ministry of Industry, New Delhi.

Annexure - III (a)

TOP TEN LOSS MAKING ENTERPRISES (1984-85)

Sl. No.	Name of enterprise	Amount of loss (Rs. in crores)	Percentage to total loss of loss making enterprises
1.	Delhi Transport Corporation	140.79	12.87
2.	Bharat Coking Coal Ltd.	90.12	8.24
3.	Indian Iron & Steel Co.Ltd.	81.60	7.46
4.	Hindustan Fertiliser Corpn. Ltd.	72.22	6.60
5.	Heavy Engineering Corpn. Ltd.	53.92	4.93
6.	The Fertiliser Corpn. of India Ltd.	44.54	4.07
7.	National Jute Manufacturers Corpn. Ltd.	32.96	3.01
8.	NTC (West Bengal, Assam, Bihar & Orissa)Ltd.	32.93	3.01
9.	Indian Drugs & Pharmaceuticals Ltd.	26.25	2.40
10.	N.P.C.(Maharashtra North)Ltd.	23.74	2.17
Total		599.07	54.76
Total loss incurred by loss making enterprises		1094.01	100.00

Source: Public Enterprises Survey- Annual Report:
Bureau of Public Enterprises, Ministry of Industry.

Annexure - III (b)

TOP TEN LOSS MAKING ENTERPRISES (1986-87)

Sl. No.	Name of enterprise	Amount of loss (Rs. in crores)	Percentage to total loss of loss making enterprises
1.	Delhi Transport Corpora- tion	164.00	9.60
2.	Eastern Coalfields Ltd.	142.19	8.32
3.	The Fertiliser Corporation of India Ltd.	102.53	6.00
4.	Bharat Coking Coal Ltd.	87.71	5.13
5.	Hindustan Fertiliser Corpn. Ltd.	86.22	5.05
6.	The Indian Iron & Steel Co. Ltd.	80.14	4.69
7.	Central Coalfields Ltd.	68.66	4.02
8.	Heavy Engineering Corpn. Ltd.	67.73	3.97
9.	Indian Drugs & Pharmaceuti- cals Ltd.	51.38	3.01
10.	Hindustan Paper Corpn. Ltd.	49.58	2.90
Total		900.14	52.69
Total loss incurred by loss making enterprises		1708.38	100.00

Source: Public Enterprises Survey- Annual Report:
Bureau of Public Enterprises, Ministry of Industry.

3. SELECTION METHODOLOGY

Procedure

3.1 Discussions were held with several academics and practitioners on objective criteria for selection of undertakings for in-depth study to capture a fairly broad spectrum of management practices leading to high performance. There was an unanimity of opinion that the criteria of selection must reflect long-term performance on major objectives of the public enterprises. Investigations showed that no known single yardstick could adequately reflect their performance on all the objectives. As such, multiple criteria were needed if selection had to be made objectively, irrespective of the prestige and esteem commanded by any undertaking in Government eyes. This called for a scientific method to rank all the 146 Central Government production enterprises on the basis of their performance over at least ten years (1974-84) against the accepted multiple criteria for choice of a few enterprises both from top (high performing) and bottom (low performing) and representing all Industry Groups as far as possible. This required first finding a representative figure of performance over ten years on the basis of individual criterion, and then arrange

these undertakings in descending order to determine their rank number. After obtaining ranks on the basis of each of the criteria, a composite rank for all the enterprises was to be computed. The above procedure appeared simple but its actual operation was full of difficulties.

Selection Criteria

3.2 The Public Enterprises Survey - Annual Reports of the Bureau of Public Enterprises were the main source of required data for the purpose. Keeping in view the ready availability of basic data in these reports and other above mentioned considerations, seven measures of long-term superiority were chosen. These indices* are described below:-

- i) Average return before interest and tax (EBIT) on capital employed;
- ii) Average return before interest and tax (EBIT) on sales;
- iii) Average of net profit (EAT) to net worth;
- iv) Average turnover of capital (sales divided by capital employed);
- v) Average annual growth rate of net worth;
- vi) Average annual compound growth in internal resources (estimated with "least squares")

* The glossary of terms used in the above indices are given as Annexure I to the Chapter.

method that gives a regression coefficient indicative of rate of growth);

vii) Average net value added to total gross assets.

3.3 First three of the above selected indices relate to profitability reflecting (1) overall performance; (2) functional efficiency; and (3) ownership effectiveness. The fourth is the indicator of productivity of capital. The fifth is the measure of growth of the company. The sixth reflects growth in captive funds as contribution to government resources. The last one is the contribution of the enterprise to national income.

3.4 After explaining the objectives, purpose and criteria for selection of enterprises for in-depth study, Chief Executives of 212 Central Government enterprises and 221 professionals and academics of various institutes of repute were approached to give suggestions for betterment of the study and to indicate if some similar study had earlier been conducted. The replies received revealed that no similar Study had earlier been conducted. Appreciating the need for such a Study, they, however, gave suggestions on certain aspects worthy of investigation.

Computation and Analysis of Data

3.5 At the time of computation of data from the BPE Annual Survey Reports it was found that some of the undertakings had

only a few years of run and a few were taken over by the Government only recently. Such undertakings numbered 45 and were dropped from the list of enterprises out of which selection was to be made for in-depth study. Thus, the effective list for selection related to 101 production enterprises. The data for 1974-84 from the BPE Annual Reports were also processed on all the above mentioned seven measures for all the 212 Central Government running enterprises to see the relative position of the undertakings to be selected for in-depth study. The information on net worth, value added, net sales, and internal resources were not readily available on comparative basis in some of the Annual Reports and these were calculated from the available data in the Reports. Appropriate statistical techniques were used to arrive at a single value representative of ten years data. Computer programme was developed to arrange the undertakings in descending order first on individual measure and then on composite indices basis after calculating arithmetic averages for measures (1), (2), and (4); average annual growth rate for (5); and compound growth rate for (6) over ten years. The computation of figures on measure (3) showed four different variations i.e. (i) +EAT/+NW; (ii) - EAT/+NW; (iii) +EAT/-NW

and (iv) - EAT/-NW. To arrive at an average value, tabulation was made in four different columns and above mentioned sequence of performance was followed for ranking of enterprises on this measure. After ranking the enterprises under each of the seven measures on the basis of single representative value, the undertaking obtaining highest relative value under the concerned measure was ranked number one and the one getting lowest value was ranked last. The descending order of the values scored by each enterprise under each measure determined the ranks in ascending order. Thereafter, composite ranking of each of the operating enterprises was determined by adding different ranks scored by the enterprises under different indices. An illustrative computer output on ranking is given as Appendix - 1.

Testing the Methodology

3.6 On the basis of above methodology, a test analysis of five randomly selected public sector enterprises viz., Neyveli Lignite Corporation Ltd, Indian Drugs and Pharmaceuticals Ltd, Indian Telephone Industries Ltd, Bharat Heavy Electricals Ltd., and Fertilisers & Chemicals (Travancore) Ltd, was undertaken before finalising the

computer programme. The test case analysis revealed different rankings under different measures. This showed usefulness of examining the health of organisations from different angles for the purpose of selecting the enterprises for the in-depth study. It confirmed the hypothesis that the organisation diagnosis has been likened to looking into a room through keyholes, each keyhole presenting a different perspective of what is going on inside the room. The methodology and results of test analysis were discussed with several academicians, practitioners and officers of the BPE.

Additional Considerations in Selection

3.7 Keeping in view the available time and resources for the Study it was decided to select about 30 from among both high and low performing enterprises. While selecting the enterprises for indepth study, it was decided that the selection should also be subjected to the following additional tests:-

- i) the selected enterprises should be in top half of at least four out of the seven measures;
- ii) if some Industry Group was over represented with ranking method, a few of the enterprises might be eliminated on the basis of their relative performance, judged from other quantifiable

aspects like capacity utilisation;

iii) if some Industry Group does not happen to be represented among the selected enterprises, then on the basis of overall rank position and other quantifiable aspects, a few additional ones from such groups might be selected as a separate category.

3.8 On the basis of above criteria and methodology, a list of 18 high performing and 10 low performing enterprises was tentatively prepared for in-depth study. It was observed that the percentages of the sales and of the gross assets of these 28 enterprises to the total sales and total gross assets of 146 production enterprises were only 19.9 and 20.4 respectively. The four public sector enterprises viz. Oil & Natural Gas Commission, Indian Oil Corporation Ltd, Steel Authority of India Ltd, and National Thermal Power Corporation Ltd. (which did not get included in the list of 28 enterprises) accounted for 49.06% of sales and 43.88% of gross assets of all the 146 enterprises. In consultation with the Bureau of Public Enterprises, it was decided to include these 4 enterprises also in the list of selected enterprises for in-depth study. To represent all the Industry Groups of the BPE classification it was also considered necessary to make some further changes in the

list of selected enterprises on the basis of considerations like product market share, innovation, indigenisation and turn-around stage of growth of the undertaking.

Enterprises Selected for the Study

3.9 The above process of selection helped in identifying 31 undertakings- 19 high and 12 low performing ones. The high performers included 2 turn-around companies. The number of enterprises selected for in-depth study alongwith the total number in each Industry Group is given in the Table, which follows:

Number of Enterprises Selected for In-depth Study

Industry Group	Total No. of Production Enterprises on 31.3.84	No. of Undertakings Selected for In-depth Study	High Performing	Low Performing
Steel	6	x		2
Minerals & Metals	13	2		2
Coal	5	1		x
Power	2	1		x
Petroleum	12	4		1
Chemicals, Fertilisers & Pharmaceuticals	25	2		1
Heavy Engineering	14	1		1
Medium & Light Engineering	20	3		2
Transportation Equipment	12	2		2
Consumer Goods	14	1		1
Agro Based Products	10	1		x
Textiles	13	1		x
Total	146	19		12

3.10 The lists of high and low performing enterprises initially selected for in-depth study are given in Annexures - II and III respectively. The selected undertakings were approached to furnish background material on Corporate Plan, Organisation Chart, SWOT (Strength, Weakness, Opportunity and Threat) Analysis and other information subsequently in the form of Questionnaire. Despite a number of follow-up letters over two years by the IIPA and BPE, the information asked for was not received from all the selected undertakings. Four of the undertakings expressed difficulties to participate in the Study. After examining the quality of information received and degree of its completeness, it was decided to confine the in-depth study to 14 undertakings - 9 high and 5 low performing. The list of the 14 selected undertakings is given in Annexure IV, and brief write-ups about these are given in Appendices II to XV for necessary reference about the background of these undertakings in relation to their past and present business activities.

3.11 Out of the 14 public enterprises finally selected for the study, two namely - Indian Iron & Steel Co. Ltd (IISCO) and Hindustan Shipyard Ltd., are take-over

Companies; one viz. National Textile Corporation (Tamil Nadu & Pondicherry) Ltd comprises of sick private enterprises taken over by the Government after nationalisation; and the remaining 11 were set up by the Government. At the time of final selection of the undertakings for the Study it was ensured that the information required from the Chief Executive on behalf of the organisation must be available because as a head of the organisation he exerts an enormous influence on the managerial performance. It is believed that an organisation is a long shadow of its Chief Executive.

Annexure - I

GLOSSARY OF TERMS USED IN INDICES

i. EBIT

Represents the excess of income over expenditure after providing for depreciation and charges pertaining to previous years but before providing for interest on loans, taxes and appropriations to reserves.

ii. Capital Employed

Represents gross block less accumulated depreciation thereon plus working capital.

iii. Sales

Sales less returns, selling commission, discount and rebates allowed on sales. Excise Duty and Sales Tax also stand excluded.

iv. EAT

Represents the excess of income over expenditure after providing for depreciation, charges pertaining to previous years, interest on loans and taxes.

v. Net Worth

Represents paid-up capital plus free reserves less accumulated losses (deficit) and deferred revenue expenditure remaining unamortised.

vi. Internal Resources

Represent depreciation provision plus deferred revenue expenditure (written off) plus retained profits.

vii. Value Added

Represents value of production less cost of direct materials consumed. Cost of power, coal and oil used as fuel have been regarded as direct material for this purpose.

viii. Gross Assets

Represent original cost of procuring and erecting the fixed assets as appearing in the annual accounts of enterprises at the end of the accounting year and takes into account additions thereto and deductions therefrom by way of sales and transfers.

Annexure - II

HIGH PERFORMING PRODUCTION ENTERPRISES
SELECTED FOR IN-DEPTH STUDY

I. Minerals & Metals

1. Indian Rare Earths Ltd.
2. Neyveli Lignite Corporation Ltd.

II. Coal

3. Central Coalfields Ltd.

III. Power

4. National Thermal Power Corporation Ltd.

IV. Petroleum

5. Bharat Petroleum Corporation Ltd.
6. Indian Oil Corporation Ltd.
7. Oil India Ltd.
8. Oil & Natural Gas Commission

V. Chemicals, Fertilisers & Pharmaceuticals

9. Hindustan Insecticides Ltd.
10. Rashtriya Chemicals & Fertilisers Ltd.

VI. Heavy Engineering

11. Bharat Heavy Electricals Ltd.

VII. Medium & Light Engineering

12. Bharat Electronics Ltd.
13. H.M.T. Ltd.
14. Indian Telephone Industries Ltd.

VIII. Transportation Equipment

15. Bharat Earth Movers Ltd.
16. Mazagon Dock Ltd.

IX. Consumer Goods

17. Hindustan Photofilms Mfg. Co. Ltd.

X. Agro Based Industries

18. Andaman & Nicobar Islands Forests & Plantation Development Corporation Ltd.

XI. Textiles

19. National Textile Corporation (Tamil Nadu & Pondicherry) Ltd.

Annexure - III

LOW PERFORMING PRODUCTION ENTERPRISES SELECTED FOR
IN-DEPTH STUDY

I. Steel

1. Indian Iron & Steel Company Ltd.
2. Steel Authority of India Ltd.

II. Minerals & Metals

3. Hindustan Copper Ltd.
4. Kudremukh Iron Ore Co. Ltd.

III. Petroleum

5. Bongaigaon Refinery & Petro-chemicals Ltd.

IV. Chemicals, Fertilisers & Pharmaceuticals

6. Hindustan Fertiliser Corporation Ltd.

V. Heavy Engineering

7. Heavy Engineering Corporation Ltd.

VI. Medium & Light Engineering

8. Bharat Dynamics Ltd.
9. Central Electronics Ltd.

VII. Transportation Equipment

10. Central Inland Water Transport Corporation Ltd.
11. Hindustan Shipyard Ltd.

VIII. Consumer Goods

12. Bharat Ophthalmic Glass Ltd.

Annexure - IV

LIST OF UNDERTAKINGS FINALLY SELECTED FOR IN-DEPTH STUDY

High Performing

1. Indian Rare Earths Ltd., Bombay (IRE)
2. Central Coalfields Ltd., Ranchi (CCL)
3. National Thermal Power Corporation Ltd., New Delhi (NTPC)
4. Indian Oil Corporation Ltd., New Delhi (IOC)
5. Oil & Natural Gas Commission, Dehradun (ONGC)
6. Rashtriya Chemicals & Fertilisers Ltd., Bombay (RCF)
7. Bharat Heavy Electricals Ltd., New Delhi (BHEL)
8. Hindustan Photofilms Mfg. Co. Ltd., Ooty (HPF)
9. National Textile Corporation (Tamil Nadu & Pondicherry) Ltd., Coimbatore (NTC-TN & P)

Low Performing

1. Indian Iron & Steel Company Ltd., Burnpur (IISCO)
2. Steel Authority of India Ltd., New Delhi (SAIL)
3. Kudremukh Iron Ore Co. Ltd., Bangalore (KICC)
4. Bongaigaon Refinery & Petrochemicals Ltd., P.O. Dhaligaon (Assam) (BRPL)
5. Hindustan Shipyard Ltd., Visakhapatnam (HSL)

Note: Parentheses refer to the abbreviations used for the enterprises in the report.

4. VARIABLES OF MANAGEMENT EXCELLENCE

Framework for Analysis

4.1 The atmosphere in high performing organisations virtually crackles with energy, enthusiasm and achievement attitude leading to excellence. In such an atmosphere, for the individuals their work becomes its own reward. It is difficult to legislate the conditions of excellence due to multiplicity of variables that influence an organisation's ability to achieve higher performance. These variables pertain to: (i) organisational physics, and (ii) managerial pharmaceuticals. Some of the important factors relating to (i) are profitability trend, adequacy of finances, location, technology, employer-employee relationships, government regulations, environmental systems etc.. These restraining forces are bound to be around us in any way whether the management asks for or not. In (ii) are the various driving forces on the part of the management like leadership style, managerial systems, corporate strategy, staff. It is the constant endeavour of the management to maintain balance between the sum of restraining forces and that of driving forces.

4.2 The driving forces are many, varied, dynamic and complex. These have been meaningfully presented in the diagnostic model developed by McKinsey and Company

(1981) for analysing an organisation's need for change. and adapted by Peters and Waterman (1982). It is popularly known as 7-S framework comprising of shared values, strategy, structure, systems, style, skills, and staff. This model has been found very useful in guiding and inter-relating the data collected for recent research studies on management excellence. It has neither a starting gate nor any implied hierarchy. One of these seven variables or any combination of these might be the driving force for good or bad in an organisation. Progress with one variable requires attention to all other six as well. The division among the seven variables might sometimes appear to be arbitrary due to their inter-connectedness. It, however, has the merit of acknowledging the sheer complexity to be identified. The mission of organisation colours each variable, and the prevailing environment casts sunlight and shadow with fickle consistency. All the variables are subject to the macro and micro environments including economic, political, sociological and psychological influences by which the organisations may be affected. The variables also reflect the current stages of growth of the people and groups within the organisations.

4.3 In the context of working of public enterprises and keeping in view the 7-S model, it was thought that the purpose of this Study could be well served by analysing the managerial practices under six variables viz. strategy

and plans, management style, corporate culture, organisational structure, staff and skills, and systems and procedures.

Strategy and Plans

4.4 The public enterprises, like all business organisations, are expected to have set of clearly defined objectives and properly prepared long-term and short-term strategies and plans. A public enterprise is created by the Government for meeting certain socio-economic needs which are spelt out in the objectives of the enterprise. These are then operationalised into specific targets, and thereafter the means are mobilised for attaining the same. Many a time, the overall statement of objectives lacks clarity in terms of scope of business and possible direction of evolution and growth.

4.5 For achieving the objectives, decision guidelines in the form of strategies are required at different levels and functional areas for profitable and orderly growth. Strategies are the art of devising and employing plans that respond to and counter-balance changes in the internal and external environment. Objectives and strategies describe the concept and philosophy of business of an undertaking. A detailed account of activities required to be undertaken for achieving the objectives and targets with approved strategies are given in the Corporate Plan. The realistic and scientifically laid down objectives, strategies and plans are of great assistance for excellence in managerial

performance in the public sector organisations, but their mere existence does not ensure excellence. To operationalise the plans, annual, quarterly and monthly financial budgets are required. In fact, budgets are quantified plans. The two important forms of budgeting systems are Performance Budgeting and Zero Base Budgeting. These two focus on linking up of expenditure with objectives, and dropping redundant and unproductive expenditures. Thus, analysis of strategies and plans is very important for the assessment of management performance.

4.6 The overall objectives of the public enterprises are specified by the Government. The micro-level situation specific objectives and strategies within the framework of the broad Government Charter, the plans and budgets are formulated by the management of the enterprise. The excellence of performance depends on how effectively these are framed. It would be meaningful to ascertain as to how high and low performing enterprises formulate, make known, review and modify their operational multiple objectives and strategies. It is also useful to see how Government policies and their directives affect corporate strategies and plans.

Management Style

4.7 Style is a perceived pattern of action and is a reflection of managerial leadership. It is the dress of

managerial thinking and philosophy. It plays an important role for creating an environment conducive to superior performance and organisation effectiveness. The style of managers, and in particular of the Chief Executives, sets tone of the organisation and determines the pace of business and the trends of its activities. It has its inherent gamble and risk factor.

4.8 Personal qualities of the chief executive form an integral part of his management style and as such influence the organisation environment. If the chief executive respects human dignity, understands their problems, sorts out grievances, resolves conflicts and creates a harmonious environment, the managers in the organisation enjoy favourable work environment and strive to perform better and become more effective. If the manager knows that his chief executive is willing to take the risk and has the required competence, knowledge and leadership qualities, he will have the psychological strength to face any crisis situation. On the other hand, the manager would be timid and in-different in case the chief executive creates a climate of overcaution.

In organisations where caution borders on all round fear of procedure, mistakes, loss and punishment, individual dynamism, initiative and drive would be lacking.

4.9 In practice, executives display varying styles of management and leadership. Some are autocratic who manage

by coercion and show of authority. Others are "free for all" leaders. They, in fact, preside over teams of men and do not really lead them. Some others are "people oriented" leaders who show dominant concern for people and often manage by gratitude. There are still others who are "result-oriented" leaders. They create conditions to integrate the objectives of the organisation with those of the employees, and manage by objectives.

4.10 For half a century, management leadership research has been devoted to studying the effects of democratic and autocratic approaches. Much investigative time has also gone into assessing the effectiveness of "task" and "relation" oriented leadership styles. The application of Blake and Moutens managerial grid gave a new perspective to the dynamics of leadership effectiveness. Increasing attention has been paid to the managers' ability to promote change in individuals, groups and organisations. The need to promote change and deal with resistance to it has, in turn, put an emphasis on democratic, participative, relation-oriented and considerate leadership. Lately, management thinkers have found that "transactional" leadership brings about marginal improvement in quality performance and in reducing resistance to decision implementation. The higher order of improvement calls for "transformational" leadership. The "transactional" leader

has exchange relationship between superior and subordinate, and inspires a reasonable degree of involvement, loyalty, commitment and performance whereas the "transformational" leader has charismatic quality to realign cultural system and institutionalise the upward shifts in the levels of performance.

4.11 There are certain basic characteristics by which the management styles could be judged. These are emphasis towards (a) 'task' - ability to get a job done, (b)'men'- being interested basically in people, (c) 'discipline'-being bothered to enforce rules, codes of conduct and procedures, and (d)'result' - ability to achieve corporate objectives. In reality, there is not one set pattern of management style for a given organisation and environment. Appropriate management style needs to be evolved in such a way that it leads to excellence in performance of the enterprise on a long-term basis. In handling style as a variable in the organisational effectiveness, it is important to see how it is received by managerial and non-managerial employees and concerned outsiders. It will also be useful to ascertain as to how the tenure of appointment of the chief executive and his ability to move around influence managerial performance.

Corporate Culture

4.12 Culture is generally understood to be the total pattern of human behaviour reflected in thought, speech and

and action of the people at work. It is recognised aspirations and goes beyond the formal statement of organisation objectives. It is the feel of an organisation as perceived by its members and determines their roles, attitudes and relationships. Every organisation has a culture which is expressed through a shared philosophy as credo like "spirit of oneness", "quality excellence", "customer service", "high risk", "few risk", "make it work", "quick feedback". Sometimes, it is fragmented and difficult to read from outside. At other times, it is very strong and cohesive. Whether weak or strong, culture has a powerful influence on the failure or success of the business. The organisation culture homogenises the individual values, binds people together, and gives meaning and purpose to their day-to-day lives. There are no magic formulae for creating suitable corporate culture. It is built over years through trial and error. Though useful in itself, yet it is not necessarily logically derived. It cannot undergo a dramatic change every time a new chief executive takes over. Every chief executive passes on valuable traits to succeeding generation. Strong corporate culture like strong family culture comes from within and it is built by individual leaders through education, expert care and training. The change in culture primarily rests with those who can exercise influence in the organisation and the manner in which they exert it.

4.13 Culture is identified in various ways, through study of physical setting, references on organisation culture in annual reports and press releases, manner of greeting strangers, employees' views on questions like why the company is successful, what explains its growth, how things get done. Absence of healthy culture is seen when 'heroes' are dubbed as disruptive or destructive, when organisational gives little emphasis to output, when no value concept application is seen in dealing with internal personal conflicts, and power and authority issues, when employees feel that they are only a collection of individuals rather than members of a team.

4.14 Research has shown that shared values are clearly evident in high performing organisations in providing outstanding products and services to the customers, bestowing exemplary benefits to the employees, dominating over competitors, exploiting ideas, inventions and innovations. For instances, the Japanese are known to have unique culture in their business organisations. Workers' participation in setting standards, quality circles and tremendous family like loyalty have created the strong Japanese corporate culture that has ~~afforded~~ to their corporations dominant economic positions in the world.

4.15 Managing culture requires extreme care. The shaping of culture is the prime management role. The three most fundamental elements of corporate culture are: commitment to common objectives, competence to deliver superior performance and consistency in developing leadership at all levels. Corporate culture cannot be imposed through rigid techniques and routinised work procedures. A group of new skills are required in the organisation to develop appropriate culture to respond to change and achieve desired results.

4.16 The corporate culture is not an isolated independent phenomenon. It acts and inter-acts with other parameters such as strategy and plans, management style, organisational structure, staff and skills, and systems and procedures. For organisation effectiveness it is essential to provide appropriate corporate culture matching with all other parameters. Any mismatch can adversely affect the organisation's performance. There is a continuing managerial challenge in creating that balance.

4.17 In the context of the public enterprises with very frequent changes in the tenure of chief executives, it will be interesting to see how the development of corporate culture is affected by changes of chief executives and their styles of working and other outside social influences. It is also important to understand the process of change and

investigate how the attributes of corporate culture are derived, articulated and communicated so that all the human elements see themselves mirrored in the organisation performance.

Organisational Structure

4.18 Organisation structure depicts division of work among the functionaries for harmonious working to achieve enterprise objectives. It divides functions, creates pattern of horizontal, vertical and lateral authority - responsibility relationships, provides a means of coordination and defines accountability. The functional lines are simplistically represented on an organisation chart. It is a method and a mechanism to manage an enterprise effectively. In management of economic activities, there is universal acceptance of principles of direct hierarchical relationship and unity of command, limited span of control, departmentalizing similar activities, balanced workload/staffing and commensurate authority and responsibility. Experience has shown that as the number of people or branches or divisions increase arithmetically, the number of interactions required to make things move smoothly ahead increases geometrically. When an organisation grows beyond a certain size, it must decentralise proportionately for effective functioning. These developments have produced new structural

components.

4.19 Bureaucratic structures have been the focus of discussion for a long time and are viewed as "procedure" rather than "result" oriented. Flat forms of organisation are advocated to replace pyramidal structures by shedding some burdensome layers or positions. The issues of autonomy and need of centralised coordination have given rise to divisionalisation. The expanded activities in the organisations constantly branch off into new divisions. In the 50s and 60s, decentralisation, project and matrix forms of organisation had been the wave. The task forces, being matrices, are themselves mini-organisations and often refocus on organisation structures. Large tightly coupled organisations have been giving way to "network" structures. In the wake of change, new organisational forms with new managerial roles are being advocated. These led to "atomized" organisation which emphasises small size and flexibility of its basic units. In concept, this is an attempt to reconcile the realities of organisation complexity with the requirements of managerial control. It, however, creates a central difficulty of coordination so as to make the whole thing work effectively. To meet the requirements of flexibility and consistency in coordination of speciality functions at Central office and generalist units, the

organisational structures have to be specific to corporate needs. It will be interesting to ascertain how the public enterprises make adjustments and readjustments in the organisation structures and use project centre and other types of temporary groups like task forces in the context of their changing size of operations, market conditions, the actions of related organisations and the emerging issues. It will also be useful to see how layers of positions create communication gaps and how effective down sizing is achieved. The structure and role of the Board of Directors and system of delegation of authority are other important aspects which are required to be looked into.

Staff and Skills

4.20 The success of an undertaking rests ultimately on the human factor. Competent people explain the magic of excellence to a very great extent. People are different in a variety of dimensions. The differences are to be overlooked, and team work and loyalty are to be established so that everyone works for common goals. It is equally important to have a team at the top, but too much homogeneity at the top level sometimes leads to "Yesman syndrome". The staff and skills play an important role in overall performance.

4.21 A considerable part of research has been devoted to the question "What is the driving force for men in the organisation?" Some believe that people work under threat of punishment. Others contend that good news came from treating people decently, inspiring them to shine and to bring new ideas that work. People flood with ideas if you let them. Discussion on men management has long been focussed on Theory 'X' and Theory 'Y', the value of job enrichment and quality circles. The research studies indicate that these efforts have to be supported by the proper career planning and promotion policy.

4.22 The term 'skill' usually refers to the expertness and adeptness of the organisation itself under the guidance of its managerial leadership. Skills sum up those attributes that characterise an organisation and connote organisations' own subtle capabilities to continually respond to change in environment. These come into prominence as a reserve resource of innovation to meet the challenges facing the organisation. Skills can be seen as an intensity of organisation perspective that enables it to maintain an appropriate balance among the other inter-connected attributes of excellence. In absolute terms, the organisation skill excellence must originate with the people. Human resource has been recognised as a most valuable single asset whose talents have to be developed and used.

4.23 In the context of public enterprises it will be useful to study frequency of preparation and nature of manpower plans, personnel manual, methods of recruitment, process of homogenisation of staff, career plans, promotion policy, system of job rotation, performance appraisal procedures, assessment of training needs and methods of meeting these, incentive systems, and mechanism of redressing grievances. It will also be important to see how individual and groups are encouraged for innovation and product development.

Systems and Procedures

4.24 All organisations require a certain level of order and consistency in the discharge of different inter-related management functions and tasks. To achieve this, they establish various formal and informal procedures, method of work with due regard to environmental conditions and well tried management tools and techniques. These are blended together as systems to meet the present and future needs of the organisation. The term 'system' covers all the procedures and processes, formal and informal, which make an organisation go. It includes, among others, systems for planning and control, capital budgeting, management information, inventory control, marketing and personnel.

4.25 Systems are ordinarily the first place to look for reasons why an organisation does or does not get things done satisfactorily. Meticulous attention, therefore, is given to designing and establishing these systems because efficiency and effectiveness of the undertaking to a great extent depend upon them. Systems once introduced are difficult to change. Dynamic environment, on the other hand, necessitates periodic review and modification of systems. There is an inherent tendency of adding to paper work and making the system complex. Excessive paper work retards efficiency and complexity of systems causes lethargy and inertia. Attempts are made to keep the systems flexible, simple and suitable to the current needs of the organisation. Procedure usually lays down the manner or method by which the system is desired to operate.

4.26 Systems and procedures play a very vital role in establishing linkages and co-ordination among different functional components and activities of an enterprise and are intimately related to the other attributes of management excellence. Each new system challenges old assumptions, approaches and ways of doing things. It takes considerable time to instal the system and procedures and to train the personnel to use them with desired results.

Systems have to be designed keeping in view the work environment of the organisation.

4.27 It will be useful to enquire how various management systems are reviewed and discontinued by the selected public enterprises without the disruptive side-effects. Particular attention needs to be given to study the systems of i) project formulation, implementation and monitoring; ii) production planning and control for improving capacity utilisation; iii) management of budgeting, inventories, and cost control; iv) pricing and after sale service; v) mobilising customer's ideas for product and services improvement, and vi) internal audit.

5. QUESTIONNAIRE DESIGN

5.1 The appropriate order in any management study is to start with the context in which the organisation exists, and thereafter examine various elements which determine the level of performance. Scrutiny of available background information, reports and literature on the selected enterprises showed that there were numerous justifications for these undertakings to perform at the level these were. Apart from diverse internal compulsions of men and systems at work, corporations are vulnerable to various external factors like technology, raw material, pricing policy, market conditions and government control and policy. Not much scope for improvement could be seen if these constraints and compulsions were to shadow and cloud all management decisions. The question worthy of investigations is, despite these constraints, what freedom the managers have to lead and act for better performance and what tools are employed by them in striving for excellence.

5.2 There are three workable methods for capturing these practices viz. (i) questionnaire; (ii) interview; and (iii) observation. Due to various limitations of time and money, our main reliance for this Study was on questionnaire method.

5.3 Two Questionnaires were developed - One was for the ex-Chief Executives to obtain insight into varied managerial

style4. The other one was meant for the Chief Executives and certain other categories of persons in the selected undertakings. The former was designed to obtain rich, lively and lucid perception based responses on the following six questions from persons who had the distinction of occupying the top management positions in the public sector enterprise(s) and carried with them varied experience of managing multi-million rupee concerns:

- i) How would you describe your managerial style which you have found to be most and least effective in the work environment of Public Enterprises? Please illustrate.
- ii) Was there any particular experience or event in your career that influenced your management philosophy and style, and how? Please illustrate.
- iii) What are the qualities of leadership which promote and hinder the growth of the organisation and how? Please illustrate.
- iv) What are the attributes of organisation culture which contribute to extraordinary performance from persons of average calibre? How do these develop and change? Please illustrate.
- v) What were the key decision points in your career as a top executive and how do you feel about your choices in retrospect? Please illustrate.
- vi) Based on your experience what factors within management control do contribute to high and low performance in public sector environment? Please illustrate.

The former Questionnaire was sent to 58 persons and after necessary follow-up efforts, 15 replies were received. Apart from utilising the information from their responses in the analysis of concepts relating to Management Style and Corporate Culture, these have been summarised in Appendix XVI.

5.4 The other Questionnaire for selected enterprises was structured under six subject heads viz. strategy and plans, management style, corporate culture, organisational structure, staff and skills, and systems and procedures, thus covering all the inter-related major aspects of management process. The questions were framed with the intention of obtaining factual and experience based responses.

5.5 In formulating the questions, we have liberally drawn on the various management concepts developed from an array of theories and empirical findings to see their validity in the context of the working of public enterprises. This eclectic approach was found useful in developing a schedule of several questions. Views of academics and practitioners were also obtained on appropriateness of the questions and feasibility of obtaining information. Most of the questions are open ended for enabling the respondents to deal with the various aspects from different viewpoints. The Questionnaire was revised suitably in the light of comment

of the academics and practitioners. It contained total 66 questions. The questions framed broadly relate to two categories - (A) concerning the established practices of the organisation as a whole; and (B) calling for individual opinions from persons in different positions. The following six categories of persons were approached to answer the Questionnaire:

- i) Chairman and Managing Director of the Company
- ii) Full Time Board Directors
- iii) Heads of Functional Areas at Corporate Level
- iv) Heads of all units in multi-unit Undertakings or of regional operating units.
- v) President/Secretary of Officer's Staff Association
- vi) President/Secretary of Major recognised Trade Unions.

The persons mentioned at (ii) to (vi) above were requested to answer questions of category 'B' and were welcome to express their thoughts, if any, on questions of category 'A'. The CMDs were requested to answer the questions of both categories (A) and (B).

5.6 The selected undertakings were requested to indicate some contact person for the Study. The contact person was approached to circulate the Questionnaire among all the said six categories of persons. He was also requested to

to send the list of persons with their addresses to whom the Questionnaire had been sent, for follow-up action and inform the respondents to send their replies directly to the Study Director in the IIPA. A copy of the Questionnaire is annexed at Annexure I. Some of the Trade Union Leaders desired a Hindi Translation of the Questionnaire and the same was also supplied. Out of 31 initially selected enterprises, only 22 forwarded the Questionnaire to the concerned persons. The Questionnaire was circulated to 415 persons of these 22 enterprises. The replies with varying degree of completeness were received from 14 QMDs on behalf of their respective organisation and 85 individuals after several follow-up letters by the IIPA and the BPE. Though the questions were designed to provoke the respondents to come up with incidents illustrative of some unique managerial dimension, unfortunately most of them were unable to come up with recollections of outstanding events.

Management Excellence in Public Enterprises

QUESTIONNAIRE BACKGROUND

Bureau of Public Enterprises, Government of India has assigned a research study : "Management Excellence in Public Enterprises" to the Indian Institute of Public Administration. The study is expected to help in developing guidelines for management excellence and in adopting effective management systems and procedures.

2. Apart from external influences like government policy, technology level, control on product prices, and market conditions, the performance of an undertaking is affected by diverse internal compulsions. Within these, managers are expected to lead and act for achieving excellence through appropriate strategy and plans, management style, corporate culture, organisational structure, staff and skills, and systems and procedures.

3. On the basis of relative performance over the years (1974-84) on seven measures, certain methodological considerations and in consultation with the Bureau of Public Enterprises, 31 central government production enterprises have been selected for in-depth study.

4. The working of these selected enterprises has been studied and analysed on the basis of available information and literature. Keeping in view the objectives of the study, certain additional information is to be collected through questionnaire and personal discussions. As such, a questionnaire has been developed under six subject heads viz. strategy and plans, management style, corporate culture, organisational structure, staff and skills, and systems and procedures. The questions have been framed with the intention of obtaining experience based responses. While filling the enclosed questionnaire, please keep in view the above background..

QUESTIONNAIRE

Notes for Respondents:

1. The questions are to be answered by the following persons:-
 - i) Chairman and Managing Director of the Company
 - ii) Full time Board Directors
 - iii) Heads of Functional Areas at corporate level
 - iv) Heads of all units in multi-unit undertakings or of regional operating units
 - v) President/Secretary of Officers' Staff Association
 - vi) President/Secretary of major recognised Trade Unions.
2. The questions framed broadly relate to two categories:
A-concerning the factual position and established practices of the organisation as a whole; and
B-relating to the perceptions of persons in different positions.
The persons mentioned at (ii) to (vi) in (1) above are requested to answer questions of category 'B' and are welcome to express their thoughts, if any, on questions of category 'A'. The CMD is requested to answer the questions of both category - A and B.
3. The replies may please be sent to:-

Prof. Ram Prakash
STUDY DIRECTOR
Indian Institute of Public Administration
Indraprastha Estate, Ring Road,
New Delhi - 110 002

1. STRATEGY AND PLANS

Category - A

- 1.1 What are the long term and current objectives of your organisation?
- 1.2 What are the corporate and functional (production, marketing, finance, personnel etc.) strategies of your organisation?
- 1.3 When and how were these objectives and strategies formulated? Describe the important steps in the process of their initiation and finalisation.
- 1.4 How and upto what organisational level are these circulated?
- 1.5 Do you prepare Corporate Plan? If yes, how is it prepared and reviewed? If not, how are the long term and short term operational plans for the undertaking prepared and reviewed?
- 1.6 How are the capital and operating budgets prepared in relation to the Plans? What are the internal and external constraints on your budgets?

Category - B

- 1.7 How are the strategies and corporate plans affected by the Government policies and directives? Please give some examples.
- 1.8 What were the problems faced in implementation of corporate and functional strategies? How were these overcome? Please illustrate with some examples.

1.9 Why and how are the changes in strategies in your organisation initiated and implemented? Please illustrate with reference to some corporate and functional strategies.

2. MANAGEMENT STYLE

Category - B

2.1 How would you describe your managerial style? Which style have you found to be most and least effective in your ^{work} environment? Please illustrate with some examples.

2.2 Was there any particular experience or event in your professional career that influenced your management philosophy and style? If yes, how? please describe briefly.

2.3 Based on your experience, what are those qualities/deficiencies of leadership which help/hinder the growth of the organisation and how? Please illustrate.

2.4 What were the major decision points in your professional career as a top/senior executive, and how do you feel about them in retrospect? Please illustrate.

2.5 Do you devote time to go around on your own in the work areas and meet people at different levels? If yes, what is roughly the proportion of your time devoted for this purpose; and how has it helped you in making your leadership style more effective? Please give some examples.

2.6 Is the type and effectiveness of the management style related to the period of appointment of Chief Executive? How much minimum tenure of appointment do you suggest for effective leadership style of Chief Executive?

3. CORPORATE CULTURE

Category - B

- 3.1 What are the major cultural attributes like "spirit of oneness", "quality excellence", "customer satisfaction" etc. of your organisation?
- 3.2 How do these shared values affect day-to-day working and performance in your organisation? Please illustrate.
- 3.3 How are these values and attributes communicated and pursued in the organisation? Please illustrate.
- 3.4 Do people in the organisation know these values? If yes, upto what level these are known and what percentage of total employees they form?
- 3.5 Based on your experience, what are the attributes of corporate culture which contribute to consistently high performance? How have these developed and changed in your organisation? Please illustrate.
- 3.6 What aspects of outside social culture influence the organisational behaviour? In what way this culture helps or hinders the organisation requirements?

4. ORGANISATIONAL STRUCTURE

Category - A

- 4.1 What are the salient features and characteristics of your organisation structure? Briefly describe its functioning with reference to its pattern like bureaucratic, divisionalisation, centralisation, matrix.

4.2 How many layers of positions have you in between the first line of supervisors and the chairman in different functional areas and what is the number of persons directly working under them?

4.3 Do you have the practice of periodically reviewing the structure of the organisation/departments? If yes, how it is done and when was it done last? Please illustrate.

4.4 Was any study made for assessing the need for change of the structure of the organisation at central and departmental levels? If yes, when was such a study(ies) made, who had undertaken it and what were the changes introduced based upon the findings of the study(ies).

4.5 Do you have the practice of forming temporary groups like task forces, product teams, project centres, working groups, quality circles? If yes, please give the list of such groups formed over the last three years with the following particulars:-

- i) purpose;
- ii) duration;
- iii) number of persons in the group;
- iv) method of deciding its membership- voluntary or decided by senior executives;
- v) method of designating the leader;
- vi) whether any formal orders issued for forming such groups;
- vii) any specific supporting staff provided;
- viii) nature of documents/reports prepared; and
- ix) mechanism for follow-up action.

- 4.6 What is the existing formation of the Board of Directors and what are its powers?
- 4.7 What were the main directions provided by the Board of Directors in policy formulation, investment planning and major operational areas of the undertaking over the last two years?
- 4.8 What is the system of delegation of authority? Enclose copies of important circulars/manuals.
- 4.9 Does your organisation structure have in-built provision for promoting innovation at individual and group levels? Describe its salient features and experience of its operation.
- 4.10 Does the number of layers of positions in your organisation create communication gaps? If yes, please give some examples.
- 4.11 Were there any cases of mismatch of authority, responsibility and accountability affecting the performance adversely over last two years? Please provide some examples.

5. STAFF AND SKILLS

Category - A

- 5.1 Do you prepare manpower plans? If yes, indicate the frequency of preparation and please enclose a copy of the latest plan.
- 5.2 Do you have any personnel manual(s)/standing orders of the company? If yes, please enclose a copy. If not, please describe how personnel matters are dealt with.

5.3 What are your methods of recruitment at managerial and supervisory levels? Please give separately for last three years the number of persons recruited through (i) open competition; (ii) campus selection; (iii) deputation from government departments; (iv) deputation from public undertakings; (v) through promotions from within company; and (vi) other sources.

5.4 How do you homogenise new executives into the organisation culture by socialising their attitudes, habits and values for fostering co-operation, integrity and communication? Please briefly describe the relevant methods.

5.5 What is the promotion policy in your organisation? Is there a formal method of communicating promotion prospects to executives? If yes, please describe.

5.6 Do you have career plan? If yes, how is it operated? Please enclose a copy.

5.7 Do you have systems of job rotation and job enrichment? If yes, please describe how these are operated and with what results.

5.8 What are the methods adopted for appraisal of performance of the executives? Please describe briefly.

5.9 Do you fix periodic acceptable targets for executives and measure their performance against these? Please explain difficulties, if any.

5.10 Do you periodically assess management and technical training needs of the organisation? If yes, please describe how it was done last?

5.11 What was the number of executives and their percentage to total, trained in management development programmes organised separately by the company and outside agencies

over the last three years?

5.12 What is the amount spent and its percentage to total expenditure budget during the last three years, separately on management training and human resources development?

Category - B

5.13 What methods do you adopt for improving personnel productivity and performance? Please describe the important methods and indicate how these are operated. What are your suggestions for improving productivity and performance?

5.14 Do you have any incentives, reward and recognition system in your organisation? If yes, how are these operated? What are your suggestions for improvement?

5.15 What is the mechanism of redressing the staff grievances? How has it worked over the last three years? What are your suggestions for improvement?

5.16 How do you encourage at individual/group levels, innovations for improved methods of work and product development? Do you provide some financial support for this purpose? What is the extent of failure tolerated by the organisation for development and implementation of new ideas? Please illustrate with important innovation(s) over the last three years. What are your suggestions for improvement?

6. SYSTEMS AND PROCEDURES

Category - A

6.1 Do you evaluate and review the various management systems? If yes, when was it done last and by whom-

internally or through outside agency? Please give details.

- 6.2 Was any system(s) discontinued during the last three years? Please describe briefly with reasons of discontinuance.
- 6.3 Is there any directive or convention to restrict the paper work or size of notes and reports for seeking attention of and decision from senior executives? If yes, please illustrate.
- 6.4 Do you have: (i) Management Information System for planning and control at different levels; and (ii) Data Bank? If yes, please give its salient features including reporting system and explain the extent of use of computers, if any.
- 6.5 What are your monitoring system(s) for plan adherence? Please describe these briefly and mention how these are operated.
- 6.6 How are the investment proposals initiated and finalised within the organisation? Which of the technique(s) have you found most useful for sound investment decisions, and what were the major difficulties encountered in their application? Please describe briefly with examples.
- 6.7 What is the project implementation and monitoring system in your organisation? Please describe briefly the management techniques which you have found most effective for controlling the schedule slippages and cost over-runs and explain how these are operated.
- 6.8 What management system have you adopted for production planning and control? Please describe briefly with results achieved.

- 6.9 What steps have been taken during the last three years for improving capacity utilisation? Please briefly describe the results achieved.
- 6.10 What techniques have you adopted for management of inventories? Please describe briefly with results achieved for keeping inventories at desired levels.
- 6.11 What financial systems of budgeting and cost control have you adopted in your organisation? How have these worked over the last three years? Please describe briefly with examples.
- 6.12 What are the systems and procedures followed for formulation of pricing policy and making changes therein for your products? Please describe briefly with reference to major products of the enterprise and mention the market share of each separately.
- 6.13 What is your marketing system with reference to sales promotion, quality assurance, customer satisfaction and after sale service? Please describe briefly with reference to major products of your undertaking.
- 6.14 Is there a specific and regular mechanism for sales personnel to solicit customer's ideas for betterment of the products/services? If yes, please give examples of ideas implemented over the last three years.

Category - B

- 6.15 What are the major systems working most effectively and least effectively? Please briefly describe these systems and give reasons for their being so.

6.16 What are your systems of internal audit and vigilance? What in your opinion are their impacts on management efficiency? Please illustrate.

6.17 Are there any areas in your opinion where informal approach is better than formal systems and procedures? If yes, please briefly describe with reasons.

7. ANY OTHER ASPECT

Category - B

You may add your thoughts on any other aspect(s) related to this study:

Name of Respondent: _____
(Optional)

Designation: _____

Office Address: _____

6. STRATEGY AND PLANS

Introduction

6.1 Strategies are decision guidelines at the corporate and functional levels, and assist in formulating realistic plans to achieve the enterprise objectives in tune with external and internal environments. Objectives reveal thrust of the enterprise. Both objectives and strategies describe the concept and philosophy of business of an enterprise, and are of paramount importance for an orderly and profitable growth. Taken together, these specify the amount, area and direction of growth and are instrumental in setting targets.

6.2 Decision guidelines in the form of appropriate strategies are normally generated through a process of consultation and sharing of views in upward, downward or lateral participation. These are formulated by capitalising on company's strengths, taking into consideration its weaknesses, catching the opportunities thrown by work environment and taking care of the threats posed by internal compulsions and external constraints. A particular strategy might necessitate restructuring of the entire enterprise, while another might call for promoting a healthy corporate culture, or building up a dedicated and efficient team, or evolving an array of workable systems and procedures, and

the like. Sustaining excellence depends on ability of management to suitably orient old strategies, initiate new ones, and responding to change constantly.

6.3 Plans are prepared at corporate, functional and operational levels for fulfilment of objectives and implementation of the strategies. On temporal basis, the plans may be long term, medium term or short-term. Functional plans are in the nature of action plans for the areas like production, marketing, finance, personnel. Operational plans form the basis of budgets. Normally, two types of budgets namely, capital and operating, are prepared.

6.4 Nine questions were framed to seek answers on different aspects of strategy and plans. Six of these (category 'A') were to elicit factual information from the Chief Executive on the type and content of the long term and current objectives; corporate and functional strategies; formulation and dissemination of strategies and Corporate Plan; preparation and review of operational plans and budgets. The remaining three questions (category 'B') sought perception based responses from the cross-section of all the six categories of persons (including the Chief Executive) on effect of the Government policies and directives on the strategies and Corporate Plan; the problems in the implementation of corporate and functional strategies; and on initiation and implementation of changes in strategies. Nearly 78 persons from 14 respondent enterprises.

responded to these questions. The replies reflected varying degrees of completeness and conceptual understanding.

Corporate Objectives

6.5 To elicit factual information from enterprises on corporate objectives, the following three questions were asked:

- i) What are the long term and current objectives of your organisation?
- ii) When and how were these objectives and strategies formulated? Describe the important steps in the process of their initiation and finalisation.
- iii) How and upto what organisational level are these circulated?

6.6 Most of the undertakings describe their objectives in general terms and do not distinctly specify the long term and current objectives. Out of nine high performing enterprises, three namely, RCF, HPF and NTC (TN&P), and three out of five low performers viz. IISCO, SAIL and HSL have described the long term and current objectives in a distinct manner. The remaining 8 enterprises have described the objectives in broad terms and have titled these as business objectives. In some cases, activity-wise

break-up of objectives has been indicated. Two high performing enterprises namely, IRE and NTPC have stated corporate objectives to be the same as what has been mentioned in the Memorandum of Association. In the case of BRPL, the current objectives are not described separately and it is stated that these are incorporated in the company's budget documents relating to production, marketing, finance, etc.

6.7 Regarding the process of formulation of objectives, two practices are seen in the responses received - one through internal discussions only and the other by associating an external consultancy agency in addition. Two of the high performing enterprises namely, IGC and NCF, and two low performing ones namely, SAIL and IISCO have reported that the long term corporate objectives are evolved through internal discussions at different fora. The divisions/functional areas in the above said 4 companies derive their objectives in line with their corporate objectives. The NTPC (high performing company) has reported that though primarily relying on their internal exercise it had also associated a premier management consultancy organisation of the country for finalising the objectives of the company.

Strategies

6.8 Strategies are mooted with the aim of achieving best performance results and developing the company as a technically and commercially viable unit. The corporate and functional strategies are, by and large, derived from long term and current objectives of the enterprise respectively. The functional strategies which are related to specific activities or departments are supportive to the corporate objectives and strategies of the enterprise. To seek information from the respondent enterprises on strategies, the following three questions were asked:

- i) What are the corporate and functional (production, marketing, finance, personnel etc.) strategies of your organisation?
- ii) When and how were these objectives and strategies formulated? Describe the important steps in the process of their initiation and finalisation.
- iii) How and upto what organisational level are these circulated?

6.9 Replies reveal that 5 of the high performing enterprises namely, CCL, NTPC, ONGC, BHEL and HPF, and 2 low performing ones viz. IISCO and HSL have not

distinguished between corporate and functional strategies and most of them have described the same broadly. The CCL has mentioned the strategy to produce planned quality and quantity of coal efficiently and economically with due regard to safety and conservation, and optimum growth and development of employees. The NTPC has indicated the acquisition of latest technology in power plant design, and completion of 200 MW units in 48 months and that of 500 MW units in 60 months as their major strategies. The ONGC has spelt out strategies for exploration, exploitation and self-sufficiency in oil. The BHEL has described the major strategies as to consolidate business in core lines through better capacity utilisation, higher productivity, reduction of material cost, better service availability and investment in upgradation of productive assets. It has also mentioned growth through optimal and productive utilisation of existing manpower, and judicious mix of in-house development and selective acquisition of design and technology as other strategies. The corporate and functional strategies of HPF are stated to be of establishing and maintaining the company's image; developing improved methods for manufacture of products; maximising share of market; and striving for self-sufficiency in photo

sensitised materials. The IISCO has mentioned the strategies relating to production, marketing, finance and personnel. The HSL has mixed up the corporate and functional strategies. Two high performing enterprises namely, IOC and NTC (TN&P) and one low performing company viz. BRPL have separately mentioned the corporate and functional strategies. For instance, IOC, among the corporate strategies, has mentioned that the company will optimise its product/marketing mix, develop new markets for surplus products, go in for alternate technology in packaging, play an important role of energy conservation through R & D efforts, and develop a shelf of diversification projects. Among marketing strategies, IOC has referred to establishing a network of LPG plants feeding a host of small satellite plants, marketing of mini LPG cylinders in hilly areas and retailing LPG through 'Indane Banks' of cylinders with cash and carry system. The company, among functional strategies, has also stated refineries and pipeline, HRD and diversification strategies. The NTC(TN&P) stated its corporate strategy to turn all the unit mills at least into nominal profit contributing centres through the process of modernisation and labour rationalisation. The functional strategies for production related to: to reduce

imbalance between production and consumption and to meet the marketing threat of power loom sector through modernisation of weaving mills; for marketing, to enlarge and improve its sales to DGS&D and public sector undertakings; and to streamline the showrooms; for personnel, to endeavour optimum utilisation of manpower through rationalisation of work force; and for finance, to tap public deposits and mobilise external resources from financial institutions. The corporate strategies of BRP L related to: improve financial position, establish dynamic service oriented marketing department for petrochemical products, technical back-up service, maintain healthy environment and stay alive to social objectives. The functional strategies of ^{the} company include: for production-information system on target and performance; for projects - timely implementation; and for marketing - technical service to customers and penetrate fibre market. The IRE (a high performing enterprise) has reported that corporate strategies are laid down in the Memorandum of Association and names and activities of various divisions and departments connote functional strategies. The SAIL and KIOC have under the caption of corporate strategies mentioned all the strategies of the organisation perhaps including the

functional ones. The RCF has not made any specific mention of the types of strategies.

6.10 The replies have revealed different processes of formulation of strategies. The three high performing enterprises namely, NTPC, IOC and ONGC and one low performing undertaking, SAIL have a full-fledged Corporate Planning Department where the corporate strategies are formulated. These are then discussed by the senior level executives, functional Directors and the Chief Executive and submitted to the Board of Directors for approval. SAIL has an elaborate mechanism for formulating strategies. The objectives and strategies in the Company are evolved through Task Forces/ Strategy Planning Groups/ Committees composed of the representatives of various units/functional areas. The corporate strategies of IISCO, being a subsidiary unit of SAIL, are finalised at corporate level of SAIL. The other three high performing enterprises namely, IRE, RCF and BHEL have stated that corporate strategies emerge out of the corporate planning process and are evolved through internal consultations at various levels. Another high performing enterprise, CCL, and a low performing company, HSL evolve corporate strategies within the framework of Government guidelines. The remaining 4 respondent enterprises namely,

NTC (TN & P) and HPF (high performing), and KIOC and BRPL (low performing), did not report any specific process of formulating corporate strategies.

6.11 The functional strategies are evolved usually through discussions among functional heads and senior executives of the area/department. In the multi-unit enterprises having regional operating units, like RCF, BHEL and SAIL, the views of the regional/unit heads and the concerned senior officers are also taken into consideration. In NTC (TN & P), the functional strategies are initiated at the mill level, discussed at different levels upto Deputy Departmental head and finalised at the corporate office. In IISCO, most of the functional strategies are evolved as per directives of the Chief Executive and in some cases discussions are also held with the direct reporting officers.

6.12 After the finalisation of objectives and strategies of the organisation, these are circulated down in the hierarchy in formal and informal ways. However, the levels upto which these are made known within the organisation and the mode of communicating them varies from enterprise to enterprise. The BHEL (high performing) and SAIL (low performing) circulate the objectives and strategies widely.

In the former, these are reported to be printed in employees' diaries and individually circulated, while in the latter, the Corporate Plan highlighting SAIL objectives/strategies are circulated amongst its various units/functional areas and representatives of the trade unions. The CCL, IOC, RCF (high performing) and KIDC (low performing) circulate objectives and strategies to all levels in the organisation. In six companies, these are selectively circulated. The ONGC circulates them down the line to the operational heads; the HPF to concerned divisional heads who, in turn, make them known to the respective functional managers in their departments; NTC (TN & P) upto General Manager level in the mills and concerned officers in the Head Office; the IISCO upto the front line executives; the BRPL to concerned officers; and the HSL to the level of Engineers/Senior Engineers and equivalent categories of personnel. The first three are high and the last three are low performing enterprises. The circulation of objectives and strategies is done by these undertakings through departmental meetings, conferences, circulars, instructional orders, action plans etc. The NTPC has not mentioned anything about circulating these. In IRE, there is no formal circulation of objectives and strategies.

Plans

6.13 Plans are prepared by an enterprise at the corporate and functional levels to achieve the objectives after taking into account macro and micro environmental variables. These plans may be long range and short term. The long range plans are in the nature of perspective plans which are termed as corporate plans. To seek factual information on Plans, the respondent enterprises were requested to answer the following question:

"Do you prepare Corporate Plan? If yes, how is it prepared and reviewed. If not, how are the long term and short term operational plans for the undertaking prepared and reviewed?"

6.14 The corporate plans are prepared by eleven-7 high performing and 4 low performing enterprises - out of the 14 respondent enterprises. Among the remaining ones, IRE (high performing) and BRPL (low performing) have reported that action for preparing a formal Corporate Plan has been initiated and is in advanced stage of fruition. No formal Corporate Plan is prepared by NTC (TN&P). However, all these three undertakings prepare long term and short term operational plans to cover various areas of corporation activities. In the 4 high performing enterprises namely,

CCL, NTPC, RCF and BHEL, and in 4 low performing ones viz. SAIL, IISCO, KIOC and HSL, the management had been preparing Corporate Plans since early years of their formation. On the other hand, in 3 high performing enterprises namely, IOC, ONGC and HPF, a formal corporate planning system had been initiated after a long period of their operational existence. These enterprises, however, have developed an effective network of long term and short term operational plans covering all areas of corporation activities.

6.15 The Corporate Plan delineates the objectives, goals and strategies of the enterprise. Only 8 out of the 11 respondent enterprises which formulated the Corporate Plan have described the corporate planning system followed by them; the remaining three-two high performing namely, CCL and HPF, and one low performing enterprise KIOC have not mentioned anything in this regard. The corporate planning system followed by the said 8 (5 high and 3 low) enterprises is more or less similar in essence, with minor variations here and there. Planning process commences with defining clearly the objectives and their relative priorities. In the light of these objectives, a set of goals and targets over a period of time are worked out keeping in view the

expected capacity of the organisation to achieve these targets. The next step is to identify Key Result Areas for which a broad outline of the strategies to be followed is formulated. The objectives, goals and strategies are developed through an in-depth analysis of the business environment and strategic issues by Task Forces/Strategy or Conceptual Planning Groups/Action Groups which are interdisciplinary committees consisting of representatives of different functional areas and plants. The recommendations of these committees are deliberated upon in various brainstorming and review sessions at the top management level, at divisional headquarters and corporate office before their inclusion in the Corporate Plan. The corporate planning process in the three high performing respondent enterprises namely, NTPC, IOC and ONGC and one low performing enterprise, the SAIL, is reported to be very methodical, comprehensive and intensive. The corporate planning departments provide the requisite thrust and coordination for the formulation of the Plan. In the case of IISCO, being a subsidiary of the SAIL, the same procedure is followed as that of the holding company despite the fact that it had no separate corporate planning department of its own. The IOC claims to follow a basic conceptual framework of the management process with cybernetic systems approach.

In the BHEL, the preparation of a corporate plan is an iterative exercise with a top down and bottom up approach providing scope for full participation of people who have to implement it.

6.16 In two high performing enterprises namely, NTC (TN & P) and IRE, and one low performing unit, the BRPL, where no formal Corporate Plan is formulated, it is reported that long term and short term operational plans are prepared after consulting the concerned unit/ departmental heads. In NTC (TN&P), long term and short term operational plans are prepared at mill level once in a year since mills are independent entities and run by the respective General Managers.

6.17 The Corporate Plans or the long and short term operational plans in the respondent enterprises are periodically reviewed and updated keeping in view the changes over time, after discussion in formally convened Management Committee Meetings, Planning Managers conferences and the Board of Directors meetings, and at the time of yearly budgeting exercises. However, the production and financial plans which are formulated on yearly basis are subject to a mid-term review.

Budgets

6.18 To obtain factual information on the budgetary process and mechanism, the respondent enterprises were requested to answer the following question:

How are the capital and operating budgets prepared in relation to the plans? What are the internal and external constraints on your budgets?

Both the high and low performing enterprises prepare capital and operating budgets. Five of the high performing namely, NTPC, IOC, ONGC, NTC (TN & P) and BHEL and two of the low performing companies viz., IISCO and SAIL, are reported to have elaborate system of budget formulation. Three of the low performing enterprises namely, KIOC, BRPL and HSL did not spell out the modalities of formulating their budgets. The IOC has, of late, introduced Zero Base Budgeting with a view to improving the budgeting system in their company.

6.19 Capital budgets are prepared to formalise the Investment Plans. These plans are in accordance with expected level of activities and identified thrust areas (new/existing business potential) in the Corporate Plan; and coincides with the period of the National Five Year Plans. Detailed estimates for the investment Plan are prepared on the basis of physical targets of on-going, new and additions/

modifications/replacement schemes. In the investment plan, priority is given to schemes which are required for increasing production, productivity and the internal resources generation. The five year investment plan is broken into annual plans which are reflected in the annual capital budgets. In NTC (TN&P), a high performing enterprise, and in SAIL, a low performing company, capital budgets are prepared for each mill/plant and then consolidated for the enterprise as a whole. The requirements of funds as proposed by the enterprises are scrutinised and discussed by the officials in the administrative ministry. These fund requirements are reviewed and firmed up by the Planning Commission during Plan discussions keeping in view the overall allocation of financial outlay for the Department/Ministry. For this purpose, the source of funding from the internal resources and the extent of budgetary support needed is also kept in view.

6.20 The operating budgets cover both plan and non-plan expenditure. Provisions for plan expenditure are made in relation to : (a) approved physical plan targets which take into account the expected level of production and capacity; (b) actual operating expenditure of the preceding year; and

commercial borrowings. Two of the high performing enterprises namely, CCL and IOC did not give any information regarding constraints.

6.21 In the preparation of capital budgets, all the remaining 11 respondent enterprises except the NTC(TN&P) held that they did not have any internal constraints. The major external constraints are - uncertainties in internal resources generation, availability of the desired level of budgetary support from the Government, and changes in fiscal policies. Certain other constraints cited by some respondent enterprises are: long time taken in getting clearance to investment proposals from the various Government agencies (specific to the BHEL and NTPC), and uncertainty in the delivery schedules of plant and equipment (specific to NTC (TN&P)). The NTC (TN&P) also mentioned internal constraints relating to the problem of managerial personnel for processing activities, and to fixed period wage agreements preventing the company to contemplate labour-saving devices.

6.22 In the preparation of operating budgets, the enterprises were faced with varying internal and/or external constraints. As regards internal constraints, one high performing enterprise, RCF, and another low performing

company, IISCO, mentioned limitations on production potential due to old plant and equipment and obsolete technologies. The NTC (TN&P) and HSL encountered problems of pricing. In the former, it related to difficulty in forecasting of raw material prices like cotton and also in regard to selling prices particularly of yarn, while in the latter it related to the prices of ships which were fixed on the basis of the International Parity Prices formula which forced the company to sell their ships below cost. As regard external constraints, one high performing enterprise, NTC (TN&P), and three among the low performing ones namely, IISCO, KIOC and HSL mentioned difficult market situation for their products arising from shifting demand pattern in NTC (TN&P); shrinking market conditions of cast iron spun pipes in the internal market as a result of stiff competition from its counterparts, in IISCO; difficulty in getting greater volume of orders in the highly competitive world iron ore market, in KIOC; and shrinking market for conventional ships, in HSL. Getting adequate supplies of indigenous scarce/imported raw materials are mentioned as external constraints by two high performing enterprises namely, IRE and BHEL and a low performing undertaking BRPL. Besides, inadequate fund

allocation for long cycle items of power plant equipment, and location of the enterprise in an uncongenial environment were also cited as an external constraint by BHEL and BRPL respectively.

Impact of Government Policies

6.23 To ascertain the effect of Government policies and directives on strategies and Corporate Plans, the following question was asked:

How are the strategies and corporate plans affected by the Government policies and directives? Please give some examples.

6.24 The respondent enterprises have mentioned that the Government policies are formulated on macro level according to national priorities and objectives and are subject to change due to different social, economic and geo-political compulsions. On the other hand, the strategies and corporate plans of public sector enterprises are prepared in advance for a specific period based on micro variables within the then existing broad national parameters and government development programmes. The Government policies and directives restrict to a very large extent the freedom of the management to formulate and implement the strategies

and plans according to unit and market considerations only.

6.25 The IRE has no freedom to fix and change the prices of its products because these are the minerals scheduled under the Atomic Energy Act and their prices are fixed by the Government. In respect of IOC, not only the prices of petroleum products but even their market share vis-a-vis other oil companies under the Sales Plan Concept, are fixed by the Government. As a result, IRE and IOC find it difficult to embark on any strategy for taking advantage of prevailing demand patterns. In the RCF, as per the Government directives, the materials whenever these were scarce had to be supplied to public sector or defence units, ignoring the other potential areas of growth. When the product availability eased, the company found it difficult to develop its market since it might have starved these growth areas earlier under scarcity conditions. This was primarily due to competition posed by other manufacturers in the line and due to lack of downstream consuming industries even though potential existed. In a low performing enterprise, HSL, corporate and functional strategies were adversely affected by the pricing formula for fixing the prices of merchant vessels built by the

company, permission to the Indian Shipping companies to import ships from abroad at comparatively lower prices, and to get their ships repaired in the foreign shipyards. The NTC (TN&P) is required to produce cloth for mass consumption for protecting consumer interests under stiff competition from private sector. This restricts the company's freedom to determine product mix strategies on commercial considerations.

6.26 The Government policy and directives arising from shifts in their priorities sometimes make it difficult for the company to pursue its perspective plan, and may have to undertake activities not envisaged in the Corporate Plan. A conspicuous instance reported in this context relates to the Government's directive on the use of gas for power generation. On the basis of recommendations of a Committee when the Government forbade the use of gas for power generation the ONGC was forced to flare huge quantities of associated gas. The policy was later on changed and NTPC was asked to take up gas based combined cycle power projects on the basis of surplus gas that became available along HBJ Pipeline, though such projects were not specifically identified in NTPC's Corporate Plan. Another instance relates to BHEL's investment decision for creating

additional facilities for the manufacture of hydrosets in the wake of increased emphasis by the Government on hydropower development in the country and on indigenisation of equipment. The Government subsequently allowed import of hydro equipment. As a result, BHEL had to suffer in its business prospects and faced acute problem of under-utilisation of capacity.

Implementation of Strategies

6.27 Implementation of strategies at times poses some problems. The enterprises endeavour to overcome these in the best possible manner. In this connection, the following question was asked to seek perception based answers from the different categories of persons:

What were the problems faced in the implementation of corporate and functional strategies? How were these overcome? Please illustrate with some examples.

6.28 According to the replies of the Chief Executives of the 4 enterprises namely, IRE, CCL, RCF and KIOC, no serious problems were faced in the implementation of strategies as these were discussed across the table by the concerned departments during formulation and were widely circulated to various levels of management for implementation. The other

10 enterprises have mentioned different problems in the implementation of strategies. Besides Government policies and directives, the implementation of strategies is affected by many other constraints. These relate to organisational, technological, financial, commercial and human factors.

6.29 BHEL faced organisational problems in implementing corporate and functional strategies of bridging technological gaps in the country and fuller utilisation of capacity. These were overcome by regular inter-action at various levels and adopting a strategy of diversification. The IOC found it difficult to fully implement some of the Divisional/functional strategies since the action plan was not specific quantitatively to facilitate effective monitoring. To cope up with this problem, increasing efforts were made by the company to prepare specific action plans for the Divisions in place of qualitative plans.

6.30 The IISCO found it difficult to implement its strategies due to old equipment, obsolete technologies, inferior quality of raw materials, excessive manpower, and inadequate financial support. However, on its own, it has tried to effect some improvement in certain areas as per capability. Some of these problems have been overcome by

upgradation of technology in limited way depending on availability of funds, improving the coking coal quality by separation of contaminated unwashed fraction, and rationalisation and redeployment of manpower.

6.31 Due to non-availability of funds, NTC (TN&P) could not push through their modernisation/addition/replacement programmes in their mills/plants. The financial problems were faced by NTPC due to mounting defaults in payment of dues by various State Electricity Boards and by BHEL due to delayed payments by NTPC. The HPF found difficult to implement its Corporate strategy due to slow movement in regard to clearance of the proposal by the Government for setting up Cine Colour Film Plant, primarily due to resource constraint.

6.32 The NTC (TN&P) had a problem relating to the achievement of sales targets as per their long term strategy due to highly fluctuating market as a result of changing consumer demand patterns, competition from the privately owned textile mills and also lack of desired quality of the products. This challenge was met to some extent by changing the product mix and streamlining the distribution channels.

The KIOC, basically set up as a 100% export oriented unit, faced the problem of marketing its iron ore due to collapse of Iranian market. This to some extent was met by a vigorous search for the alternative international markets and strategy of diversification for establishing a sponge iron plant and steel making facilities in Mangalore.

6.33 In three high performing and two low performing enterprises, challenge in the implementation of some of the strategies emanated from the human factor. To implement the strategies effectively, BHEL was confronted with the problem of involving a cross section of people in the organisation at all the levels. To take care of this aspect, the company adopted a structured manpower corporate planning process with highest priority on involvement, commitment, responsibility and accountability of concerned people. In the RCF, lack of discipline, low morale, lack of job satisfaction and job enrichment and meagre promotion chances stood in implementation of strategies to a great extent. In the NTC (TN&P), multiplicity of trade unions created communication gaps between workers and management by projecting a unimpressive image of the company in the minds of the workers. This led to inordinate delay in settlement of disputes. The middle level management staff, on the other hand, did not

contribute their best, under the feeling that involvement will increase their workload and responsibility. In the two low performing enterprises viz., BRPL and HSL, the problems in implementation of strategies arose mainly due to inadequate opportunities for full involvement of the employees in the work ethos and in decision making process; and lack of commitment on their part towards their job and the organisation. In the former, it was due to absence of definite and distinct cultural attributes and in the latter because of wide scale segmentation and compartmentalisation of the work force based on castes and political beliefs.

Procedure for Changes

6.34 The strategies adopted by any enterprise are reported to be reviewed periodically in order to evaluate their effectiveness and to make them feasible under the changed circumstances. With a view to obtaining some illustrations as to why and how changes are made, the following question was asked from different categories of persons:

Why and how are the changes in strategies in your organisation initiated and implemented? Please illustrate with reference to some corporate and functional strategies.

6.35 Replies reveal that corporate strategies are usually modified due to external factors like changes in government policies, financial problems, market fluctuations, and due to internal constraints like changes in technology, introduction of new products. The NTPC had to deviate from its corporate strategy, on the government directive, of setting up power generation plants from coal to natural gas based combined cycle power projects. The ONGC was compelled to modify some of its plans and strategies due to delay in clearance of proposals for importing the equipment and other constraints imposed by the Government from time to time. Further, due to increase in global oil prices and the consequent pressure on the country's valuable foreign exchange resources in the early eighties, it became necessary for the ONGC to develop plans and strategies for achieving self sufficiency, to maximise production and to indigenise equipment and services. The SAIL had to make changes in strategies due to technological developments brought in the plants with a view to reducing cost and improve productivity. In order to have full benefit of modernisation process, the IISCO decided to accord first priority emphasis to improve the work culture of the organisation. In the HPF, a set of strategies and plans were evolved to promote some new lines of business activity like photovending machines and

prospectively of magnetic tapes. Some changes in the strategies were made by the NTC (TN&P) as and when the achievement of sales targets indicated the need to do so.

6.36 Continuous monitoring and feedback received from the concerned departments facilitate the modification of strategies and plans. Replies also reveal that the process of initiating and implementing change in strategies in both high and low performing enterprises is more or less the same as that was followed by them at the time of formulating the strategies and plans. By and large, changes in strategies are initiated after due discussions at various levels of decision making in the company. In BHEL, any problems due to changes in environment are posed to managers at various levels and forums. The process is initiated in the Product Committees consisting of product representatives from various units and functional experts. Business implications are explored/discussed at Sectoral Business Committees e.g. Thermal Business Committee, Hydro Business Committee as the case may be, consisting of decision makers within the concerned business sector. Functional problems/shifts are discussed in Functional Committees viz., Personnel, Engineering etc. These are then deliberated

upon in the Management Committee consisting of Executive Directors, Functional Directors, under the chairmanship of the Chief Executive. Wherever necessary, these are referred to the Board of Directors. In the NTC (TN&P), changes in strategies are initiated by the top management either on their own or acting on the suggestions at the mill level. These are mostly initiated by taking the people into confidence by mutual discussions. Some changes in strategies are made by mills at their level in anticipation of sanction of their modality of changed strategy. In the IISCO, changes in strategies are evolved mostly as per directions of the Chief Executive. However, some of the proposals are also worked out after due discussion between the Chief Executive and his direct reporting officers. In the BRPL, the proposals for change in strategies are reviewed by a Committee of Directors and eventually placed before the Board of Directors for information. To implement the changed strategies, ONGC identifies the change agents and takes them into confidence. In this process, a lot of time has to be spent with the people to explain and remove communication gaps, but this is unavoidable if the changes are to take effect smoothly.

6.37 As a result of implementation of modified strategies, some of the important changes brought about by the respondent enterprises are described below:

- i) The IRE had to reorganise the production facilities and created Minerals Division after the company decided to take over the mineral sand industry in Kerala and Tamil Nadu. Similarly, to implement the OSCOM Project and other expansion programmes a new Project Division was established.
- ii) In the wake of introduction of new products in the market, the HPF created a new Division under the change of a General Manager to formulate effective plan and strategy for marketing the products like photovending machines known as "Photomaton" and prospectively of magnetic tapes.
- iii) In the NTPC, the changes in strategies resulted in:
(a) the reorganisation from two-tier to three-tier organisation structure by introducing the concept of regional offices; (b) decentralising of Engineering and Contracts functions to regional offices, and based on subsequent experience again reverting to centralisation of these two functions at the corporate office; (c) evolution from a construction-oriented organisation in the initial phases to pre-dominantly operation-oriented one with the commissioning of various power projects.
- iv) To offset bottlenecks in the transportation and distribution network, the IOC evolved 2 strategies viz., (a) matching rake unloading facility at their

depots with storage tanks and to support railway policy to optimise use of tank wagons by minimising turn-around period; and (b) building a network of storage and distribution points all over the country including remote locations, where investment would not be justifiable on purely commercial considerations.

- v) In the ONGC, the implementation of changed strategies culminated in the setting up of a new department of Equipment Management and reorganisation of structure.
- vi) To combat increasing competition in various product areas, BHEL brought about, at the corporate level, (a) product rationalisation among various units by introducing Product Manager concept in the organisation structure; (b) product oriented approach by formation of Product Management Group and creation of Service after Sales Division in the company; and (c) system of taking up of power projects on turn-key basis. At the functional level, the BHEL decided to freeze manpower for existing products even though higher turnover had been planned. This meant retraining and ~~redeployment~~ of existing personnel, and giving fillip to productivity.
- vii) To tone up work culture and attain a high level of industrial discipline in the organisation, the IISCO had moulded its strategies to bring about improved communication, information sharing, intensive exposure to training, formation of Shop Improvement Groups etc, besides rationalisation of manpower use and redeployment of persons cutting across conventional system.

- viii) To face competition, the SAIL changed over to dynamic pricing policy for its products.
- ix) With a view to meeting the challenge posed by the collapse of the stipulated Iranian market for iron ore, KIOC changed its strategies (a) to penetrate into international markets for pellets and concentrate, and (b) to diversify its activities to ensure 100% utilisation of capacities already created, for establishing a Sponge Iron Plant and Steel making facilities in Mangalore.
- x) To make the HSL a viable and project-oriented enterprise in the face of its conventional shipbuilding activity becoming increasingly unremunerative on a perennial basis, the company changed its commercial strategies in favour of diversification and multi-pronged marketing approach in various fields like offshore platforms, on shore structures, small craft fabrication, defence items.

6.39 Main Findings

- i) Most of the enterprises have described the objectives in general terms, without specifying distinctly the long term and current objectives. Two high performing respondent enterprises have mentioned that the corporate objectives are the same as were stated in the Memorandum of Association. Three each of the high and low performing enterprises

described the long term and current objectives in a distinct manner. Out of these, one high and 2 low performing enterprises reported that the long term corporate objectives were evolved through internal discussions at different fora.

ii) Most of the enterprises have not distinguished between corporate and functional strategies. Three high and one low performing enterprises which have a full-fledged Corporate Planning Section/Department evolve the strategies through an elaborate exercise of involving a large number of people at different levels in association with the Corporate Planning Section/Department. The levels upto which the objectives and strategies are made known within the organisation and mode of communicating them varies from enterprise to enterprise.

iii) Out of 14 respondent enterprises, corporate plans are prepared by 7 high and 4 low performing enterprises. In the others, long and short term operational plans are formulated to cover varicus areas of corporation activities. The corporate planning process is methodical, comprehensive and intensive in 3 high performing and one low performing enterprises having full-fledged Corporate

Planning Section/Departments. All these plans are subject to review from time to time and are updated according to changed requirements. However, the Production and Financial Plans are formulated on yearly basis with a mid-term review in a few cases.

iv) To operationalise the Plans, both capital and operating budgets are prepared by all respondent enterprises. Almost half of the enterprises have an elaborate system of budget formulation. Others seem to take it as a compulsive exercise to meet the requirements of the Administrative Ministry and the Planning Commission rather than regarding budget as an instrument of control.

7. MANAGEMENT STYLE

7.1 Management style is a reflection of leadership and connotes the manner of thinking and functioning of a leader. It permeats the entire organisation even without written directions or commands to spell out management style. The management style unifies or disintegrates the economic, social and environmental dimensions of an organisation and acts as a vehicle to promote or discourage change in the individuals, groups and the organisation. It is manifested in formulating strategies, synthesising the conflicting behaviours, developing corporate culture, getting things done, creating organisation structure and evolving systems and procedures in the wider interests of the enterprise. Management style is a powerful attribute and exercises an all-pervading influence on the functioning of an enterprise. It is not the sole attribute to achieve excellence. The other equally important ingredients are organisation structure, strategy, culture, staff and skills, systems and procedures.

7.2 A significant part of research efforts has been devoted to the study of leadership. In business and industrial enterprises most frequently referred to management styles are democratic and participative, dictatorial/authoritarian/autocratic and *laissez faire*. There is no one standardised

management style and it varies from situation to situation. The deliberations of various conventions of the Public Enterprises and Conferences of the Chief Executives of Public Enterprises convened by BPE in the past few years underscored the need for participative management style. The First and Second National Conventions of Public Enterprises held in April 1976 and March 1979 were of the view that participative management should be accepted and implemented as a philosophy to ensure better involvement of all sections of employees including managers. The First Conference of Chief Executives of Public Enterprises in April 1983 mentioned that instead of the ritualistic approach of inducting workers' representatives into Board of Directors for the formal constitution of Committees and Council, the leadership style should be oriented towards participation in management. This could then permeate the entire organisation and help in the evolution of a culture of participative management. The objective, therefore, may be rephrased from "workers' participation" to "employees' participation".

7.3 The analysis on management style here is based on replies to the questionnaires received from a few past Chief Executives and from 6 categories of persons including Chief Executives of 14 respondent enterprises. Chief Executives

of the public enterprises were approached through a questionnaire and requested to furnish information on management style and related aspects on the basis of their experience in various enterprises. Fifteen replies were received and the same have been summarised in Appendix XVI. Six questions were framed to elicit perception based answers on the subject from persons of respondent undertakings. The following question was asked to seek information on description of style and its effectiveness:

How would you describe your managerial style?

Which style have you found to be most and least effective in your environment? Please illustrate with some examples.

Style Description

7.4 The management style of the Chief Executive and most of the other executives in 8 high performing respondent enterprises (barring CCL) and 5 low performing ones is claimed to be basically participative and democratic. In CCL, the management style is reported to be, by and large, "task" related. The participative and democratic style is described as a "relation" oriented approach entailing delegation and decentralisation in most spheres of authority and involvement.

of the people in the decision making process. In policy decisions the participation of the subordinates is limited to obtaining different viewpoints and leaving the final decision as the prerogative of the Chief Executive and the Board of Directors. In other spheres like target setting, formulating strategies, product development, distribution and marketing, human resource development, contemplating technological changes including modernisation etc., people are fully involved to thrash up the issues and after detailed deliberations, as far as possible, arrive at a decision on the basis of consensus among concerned persons. In R & D set-up of some enterprises like ONGC the leader is said to have adopted a 'paternalistic' style creating an environment which encourages generation of ideas and affords full scope to bring out the best of creative abilities among the concerned staff. He carries the team mates alongwith in the attainment of the specified objectives, and does not force his ideas on them.

Most Effective Style

7.5 Overwhelming majority of the six categories of persons in the 8 high performing enterprises (excepting CCL) as well as in 5 low performing ones, have contended that participative and democratic leadership style has been most effective. This style has been found to be very useful in getting the best out

of the team of engineers, scientists, specialists and professionals, skilled workers and technicians. This has, by and large, helped the leader to have a meaningful exchange relationship between the superior and the subordinates and enables him or her to promote change in individuals, groups and the organisation and deal effectively with the resistance to it. Personal contact with individual employees and free exchange of views with them has helped in developing healthy work culture in the organisation, in building a cohesive and highly motivated team and in better communication, which has resulted not only in cogent decision making but also in their proper and faster implementation. This type of leadership style is reported to have integrated the individual needs and the organisational objectives. The following are some of the examples cited, where participative style of leadership has been found effective:

- i) Due to participative style of management and emphasis on human relations the eastern region of IOC performed exceedingly well even in an adverse external environment created by widespread agitation by CPI(M).
- ii) In ONGC, the participative style worked well in the timely completion of the development and manufacture of 50 ton and 20 ton rating rigs.

- iii) In NTC (TN&P), the style of intensive consultations with the people instead of issuing an executive fiat was tried with success in a few mills under the company. In Sri Sarada Mills and Sri Bharathi Mills, the phasing out and replacement of narrow width plain looms was accomplished without resistance by taking the Trade Unions and the workers into confidence. In Balaramavarma Textile Mills, the Chief Executive of the unit mill by seeking the willing co-operation of the people could manage to achieve success in a sensitive area of keeping the labour strength as per industry norm or mills norm, and complete the construction work in another textile mill on schedule.
- iv) IISCO brought about improvement in work culture without any problem by holding meaningful discussions with officers at various levels, Officers Association and functioning Trade Unions.
- v) One of the senior executives of SAIL has reported that the success of Bhilai Steel Plant was the result of its excellent team work while the low performance of Heavy Engineering Corporation Ltd was due to non-cohesive team at the senior and top level.
- vi) Consequent to the loss of stipulated Iranian market, the strategy to enter the Japanese and West European

markets by KIOC and to diversify with the manufacture of sponge iron came out of the brain-storming sessions with the executives at various levels.

vii) In the BRPL, the participative style of leadership is reported to have tackled successfully the problem of inter-departmental coordination, by making individuals talk to one another and discuss targets, strategies etc, instead of formally communicating through exchange of memoranda.

Least Effective Style

Autocratic/authoritative style of management or dictatorial/bulldozer approach in dealing with the people has been described to be least effective by most of the persons of different categories. According to a senior executive of NTC (TN&P), the old management philosophy of 'hire' and 'fire' with least botheration of involving the employees at various levels in the management functioning, does not hold good in the present days and positional leadership style will not bring in desired results. A senior executive in BRPL has contended that legalistic approach adopted in the public sector undertakings where the executives tend to adhere to the letter of the law rather than its spirit is unproductive.

The Chief Executive of HSL is, however, of the view that both the authoritative and a completely democratic styles are least effective.

Situational Style

7.7 Some senior executives of the 3 high performing (ONGC, NTC (TN&P) and BHEL) and of all the low performing enterprises have contended that it is very difficult to categorically brand a particular management style as most or least effective. No single style alone can bring expected results or help in managing the role. There are occasions when individual perceptions tend to cloud an issue and the leader has to be a bit autocratic to put the system back on its rails. Sometimes, authoritative style is adopted by a leader to enforce certain decisions forgetting the desired results. The managerial style, according to them, is essentially situation-oriented and different styles are adopted in different work situations. The following are the reported examples where situation specific styles were found useful:

- i) The style of a leader in a production unit of RCF was on the one hand to instil fear in the minds of his subordinates that they were liable to be punished for faults and deficiencies and on the other to reward good workers suitably.

- ii) A functional executive in BRPL successively placed junior in the hierarchy had been deviating from the normal style in the organisation depending on the attitude and approach of his next senior or the Chief Executive. In some cases, he had one managerial style while dealing with his seniors and another one for his colleagues and staff working under him.
- iii) A senior executive in HSL has reported that his functioning had been management by force and threat and this was found by him to be most effective in an environment where majority of employees were uncommitted and were responsive only to fear.

Influence of Experiences on Style

7.8 Management style is the outcome of the management philosophy of the leader and experience gained in different work situations and positions. The style of an executive may change temporarily as dictated by situation or under force of directive from above, but the basic style is found to be relatively stable. To ascertain the influence of particular experiences or events on management style the following question was asked:

Was there any particular experience or event in your professional career that influenced your management philosophy and style? If yes, how? Please describe briefly.

7.9 The analysis of experiences or events in professional career influencing management philosophy and style, is based on replies received from chief executives of 3 high performing enterprises namely, IRE, CCL, ONGC and a low performing company-IISCO; and a few replies from other categories of persons. The Chief Executives of IRE, CCL and ONGC hold that past background and previous experience of working with different types of leaders particularly professional luminearies who have been recognised as effective managers in the field, exert considerable influence on the management philosophy of the person. The Chief Executive of IRE, in his previous assignment in BARC was greatly impressed by the freedom of operation given to the scientists and engineers in the R & D set up which had its due impact on his functioning style in the IRE. The chief executive of CCL and an executive director of NTPC by virtue of their intimate association with certain professional celebrities in their previous assignments absorbed lot of practices to influence their management philosophy and shape their style. The Chairman

of ONGC on account of his training in the Indian Military Academy is said to have imbibed certain basic qualities of good leadership such as concern for the people, their motivation and morale to get results through meticulous planning with clear objectives. These traits, according to him, stood him in good stead in managing a large multi-dimensional enterprise like ONGC in an effective manner. Similarly, a functional head in HSL when he was made Chief Coordinator of quality circles found that shop floor workers who were earlier considered to carry out jobs mechanically could also think and take right implementable decisions in solving their most complicated work related problems. It brought in a new kind of awareness in him that this human resource is capable of contributing their best through consultative style of functioning.

7.10 The management philosophy and style of a leader is influenced by both negative and positive points in others' style of functioning. A few instances of how negative points of a particular style influenced the management philosophy of certain leaders are cited. The Chief Executive of a Textile mill under NTC (TN&P) observed that 'divide and rule' policy followed by a colleague i.e. keeping one group of employees as supporters and going against the others - though providing

him a temporary boost, landed him into trouble over a period of time. It dawned on him that this policy of 'divide and rule' was not the appropriate approach in the larger interest of the organisation. Another senior executive of NTC (TN&P) reported that in earlier days of his career he worked in organisation with autocratic style of management which believed in extracting work by harsh tactics. With adverse results witnessed by him in regard to autocratic leadership style, he in the NTC was favourably inclined to adopt a democratic leadership style. Again, the chief executive of IISCO reported that his association with his first boss in professional career influenced his management philosophy in his later career. The boss in question was, *prime facie*, a firm believer in functioning in an autocratic manner. He was always demanding and apparently quite harsh in his dealings. The chief executive of IISCO could see the negative points of this style and rechristened his approach into benevolent autocratic style in IISCO when it came to him.

7.11 In the same way, the participative, consultative and democratic styles practised by certain leaders in their work environment with great success has not only reaffirmed their own faith in the participative management philosophy but has also brought home positive points of this approach for others to

inspire them in moulding their management philosophy in its favour. To cite a few illustrations of how the participative style in practice paid rich dividends, a functional chief in IOC bore testimony to the fact that due to participative style of management, the eastern region of the company did exceedingly well in an adverse external environment because of CPI(M) activities in the region. A Regional Director of a Business Centre in ONGC in his reply has reported that the vitality of this management philosophy was put to test, with success, when the work on development and manufacture of rigs of 50 ton and 20 ton rating was completed on time in the face of constraints of time and resources. A chief executive of a textile mill under NTC (TN&P) has reported that his consultative style of functioning in a spinning mill elsewhere paid dividends in dealing squarely with the situation of labour unrest and anticipated strike. The Vice Chairman of SAIL in his previous assignments including that of the Chief Executive in Bhilai Steel Plant is reported to have observed that sharing of problem with concerned persons and taking a participative decision had a great motivational effect on the people to execute the decisions faster and wholeheartedly.

7.12 A senior executive each in BRPL and HSL has mentioned events/experiences which influenced their management philosophy and led them to adopt an "open style" of functioning. The

responding executive of BRPL in one of his previous assignments elsewhere observed that a shift controller in a working plant environment had been following an autocratic style. Interaction between the shift controller and the operators was mainly for communicating the instructions, and not for detailing the purposes of carrying out the individual activity. This demoralised the subordinate operating personnel in the plant. It dawned on him that the prevailing style would not work for long and it was necessary to have an "open style" of managing the situation. This had brought change in the response of the subordinates in extending their willing cooperation towards better performance. Another senior executive of HSL reported that initially he was very haughty, temperamental, over-bossing etc., believing the manager's role as an authority on the men working under him. Once in 1972 he was suddenly taken ill on the shop floor and was rushed to the hospital. In the evening, right from the seniormost foreman to the last trainee visited him in the hospital. This gesture touched the innermost chords in his heart and convinced him that men working under him are basically human beings and the manager should be mostly human in his dealings rather than bossing type. Two senior executives of IOC and ONGC have reported that training courses shaped their management philosophy.

Management Style and Decisions in Retrospect

7.13 Most of the decisions are taken by the leaders on the basis of complete analysis of the situation and in tune with their respective management styles. On the other hand, certain decisions are taken by them during crisis situations and these may not be in accordance with their normal style of functioning. *Prima facie*, in both the cases the decisions are purported to have been taken keeping larger interests of the organisation in view. However, when seen in retrospect, the leader may feel that some of the decisions taken in tune with their normal management style have not brought the expected results, while some bold and quick decisions having been taken by deviating from the normal style, since the situation so demanded, have proved to be appropriate decisions.

To seek information in this regard, the respondents were requested to reply the following question:

What were the major decision points in your professional career as a top/senior executive, and how do you feel about them in retrospect? Please illustrate.

7.14 A few persons have mentioned about major decisions taken by them in different situations and how they felt about them in retrospect. In all these cases, different management styles were adopted. Among the high performing respondent enterprises,

the chief executive of IRE in tune with his "task" oriented management style is reported to have taken important decisions relating to diversification programme for separating individual rare earths by solvent extraction method; formulation of marketing strategy for sale of products abroad; and lease financing of capital projects. These were later found to be appropriate decisions. A functional head in the IOC has reported that he took a bold decision to reinstate 6 employees in the eastern region who were under suspension for a number of years. These employees happened to belong to a splinter union which was trying for recognition although it did not have the requisite majority. The situation of these employees being under suspension for a long time was used by the splinter union to get sympathy and this was frequently creating disturbing situations. The decision of this functional head to reinstate these employees proved to be very timely and appropriate since it knocked the bottom out of the splinter union and it became a spent-up force. An Executive Director of BHEL is reported to have taken certain venturesome decisions relating to : (i) transferring some individuals of doubtful integrity from key positions despite all opposition, (ii) building up potential leaders and accepting challenging assignments; and (iii) identifying innovative persons for the development of new products. The

decisions proved to be right and were in the best interests of the organisation. The decision of a General Manager of a textile mill under NTC (TN&P) to effect count change to suit the machinery condition of the unit and that of another General Manager of a textile mill to reorient the mill's production for Government/institutional supplies and also for exports, according to them, paid great dividends to the mills' profitability. The General Manager (Marketing) in the NTC (TN&P) changed the product mix in such a way so that more value added items like synthetic fabrics, could be produced against earlier heavy dependence on the production of grey fabrics. It was seen to be right since the average sales realisation improved from Rs.6.90/metre to Rs.13.00/metre.

7.15 Among the respondents from the low performing enterprises, the Chief Executive of IISCO, through a process of consultation, took an important decision to use old equipment like Ingot Boggies in soaking pits lying unused for past many years even though these were provided as per original design. This improved the plant performance significantly. The functional head of Gua Ore Mines (IISCO) is reported to have taken some major decisions like: (i) reducing manpower to the minimum possible extent at ore mines complex for

judicious deployment of workforce; (ii) maintaining small fleet of heavy earth moving equipment for effective capacity utilisation thus reducing cost of production, and (iii) utilising end product (iron ore fines) to the maximum possible extent by despatching fines to Bokaro Steel Plant. All these decisions, according to him, resulted in improving the operational efficiency of the ore mines. The decision of Vice-Chairman SAIL to introduce productivity linked incentive scheme in the major shops led to motivation and team spirit among the workers to give better production performance in the major shops. Similarly, the decisions of the Executive Director of Salem Steel Plant regarding introduction of incentive schemes and quality circles, and provision of welfare amenities to the workers are reported to have been yielding better results in the plant. Certain decisions of a senior executive in the BRPL in regard to manpower development by identifying 'work centres' based on technical requirement in the lay-out; establishing suitable norms for recruitment; development of skills and thereby building the hierarchy at lower levels within the organisation by ensuring them avenues for better career growth; and entrusting responsibilities based on knowledge and skill during the period of training itself, thereby

deviating from certain norms hitherto followed, proved beneficial in providing suitable manpower for the organisation. A senior executive in HSL took a decision to establish a computer centre in HSL during 1985-86, and was satisfied to note that it had toned up the operational efficiency of the organisation.

Moving Around

7.16 "Management by Wondering" (MBW) has been identified by some of recent studies as an effective practice in high performing enterprises in USA. To elicit information on this style in the context of public enterprises in India the following question was asked:

Do you devote time to go around on your own in the work areas and meet people at different levels? If yes, what is roughly the proportion of your time devoted for this purpose; and how has it helped you in making your leadership style more effective? Please give some examples.

7.17 The analysis of replies indicates that going around the work areas is practised differently by different executives. There are certain executives who prefer to meet their subordinates in meetings or when they call on him for some purpose, whereas there are others who consider going around the operating locations as an integral part of responsibility. The unit heads

or senior executives in Production Department visit the work areas regularly on their own. The Chief Executives, too, whenever required, are reported to go around the operating areas. Senior executives in certain areas like Finance, Research and Development, Personnel and Administration also are reported at times to meet people in their respective departments.

7.18 The time devoted to moving around the work areas varies depending on the work assignment, position in the hierarchy and executives' personal attitude. The responses of different categories of persons show that the senior leaders, mostly in production department or the unit heads, who are directly associated with the work areas and the workers, devote roughly 25 to 50% of their time in moving around. It has also been observed that middle level executives spend comparatively more of their time for this purpose.

7.19 All the executives, with a few exceptions, have contended that interaction in an informal way with persons at different levels in the work areas has helped in making their leadership style more effective by (i) promoting a two-way communication; (ii) giving the subordinates an opportunity of inter-acting with the seniors, posing their problems to them in a live situation and seeking solutions on the one hand and enabling

the senior executive on the other to take prompt and timely decisions on the spot; (iii) minimising formal meetings/paper work; (iv) keeping the subordinates alert; (v) enabling the senior executives to establish personal rapport with the employees and workers.

7.20 Only three senior executives, one each from KIOC, BRPL and HSL have stated that going around the work areas has hardly made any perceptible impact on the effectiveness of the leadership style. The Chief Executive of KIOC, despite spending time in going around the work areas, could not say how this had helped in making his leadership style more effective. A senior executive in BRPL expressed scepticism on the positive impact of this practice on the leadership style. A senior production executive in HSL has reported that a major portion of his time is spent in going around the work areas leaving hardly any time for planning and development activities.

Leadership Traits

7.21 To ascertain the leadership qualities which help and hinder the growth of an enterprise, the following question was asked from different categories of persons:

Based on your experience, what are those qualities/deficiencies of leadership which help/hinder the growth of the organisation and how? Please illustrate.

7.22 There is no single agreed list of qualities of leadership which have helped growth of the organisation. A number of executives in 3 high performing enterprises namely, NTPC, ONGC and NTC (TN&P) and one low performing company viz. HSL have mentioned that the leader is required to be a person of clear vision to identify goals and objectives; assess available resources; set realisable targets; and take action to achieve these. A high degree of functional and inter-personal skills is needed by him to get a quick and clear concept of men and matters in the work environment; understand the complexities of the problems at the working level; identify and analyse strengths and weaknesses of the organisation; ensure proper coordination among various departments for promoting a harmonious work environment; guide the work process in an efficient manner; keep watch on the areas of possible slippages and take mid-course corrective action from time to time. A few executives in 3 high performing enterprises namely, CCL, ONGC and NTC (TN&P) and also 3 low performing ones namely, IISCO, BRPL and HSL have mentioned capability to follow a fair but firm policy while a few others in the 3 low performing respondent enterprises namely, SAIL, BRPL and HSL have highlighted skill for creating healthy corporate culture and sense of belonging and team spirit.

7.23 Participative approach as an effective tool of motivation has been reported by most of the executives in 6 high performing respondent enterprises namely, NTPC, IOC, ONGC, RCF, BHEL, NTC (TN&P) and 4 low performing ones viz., IISCO, SAIL, BRPL and HSL. Through participation of the subordinates, an environment of all-round cooperation rather than of confrontation can be created and a collective drive is generated to achieve the coveted objective of organisation growth.

7.24 A few executives in the 6 high performing respondent enterprises namely, IRE, NTPC, ONGC, RCF, HPF and NTC (TN&P) and 2 low performing ones viz., BRPL and HSL have emphasized human approach in dealing with people. It has been reported that a leader who reposes faith in the colleagues and other employees and shows concern for them can endear himself to the people and can always use them as a valuable resource to the maximum benefit of the organisation. The quality of listening patiently to the men working under a leader as and when they face any personal problem and sympathising with them even when he is not able to fully take care of their grievances and going to the extent of visiting them after working hours in the event of their sickness, accident and bereavement create a lasting bond between the leader and his men. Encouragement and appreciation of good work by means of introduction of incentive schemes and proper attention given to welfare measures have also a good effect in bringing them closer to the leader.

7.25 Most of the executives of one high performing enterprise, NTC (TN&P) and 3 low performing ones namely, IISCO, BRPL and HSL have highlighted the importance of effective communication. It has been mentioned that the leader should have the ability to communicate clearly and be able to pass on instructions precisely and without ambiguity. This behavioural skill will not only allow the people to understand the leader easily and appreciate his straightforward approach but also help him to establish his bonafides and develop better rapport with his people.

7.26 The leadership qualities of professional knowledge and competence have been highlighted in the replies of the Chief Executives and number of other executives in the 2 high performing enterprises namely, IRE and NTC (TN&P) and two low performing ones viz., BRPL and HSL for growth of an organisation. The replies indicate that a leader with sound professional knowledge and competence should have a clear perspective of the business and what he demands of people working with him to make a success of the venture. A leader apart from having a good understanding of the functions he is required to perform, should also make it known to his subordinates that he fully understands the job. His professional acumen in the field will enable him to effectively guide and stimulate interest in the team.

7.27 Several executives of 3 high performing enterprises namely, IRE, ONGC and NTC (TN&P) and 3 low performing ones viz., IISCO, BRPL and HSL have highlighted the importance of personal qualities of a leader for organisation growth. The qualities mentioned in the replies are: building good self image and projecting a good corporate image; total dedication and sense of commitment and unswerving loyalty towards the organisation; honesty in facing problems and connected hazards instead of sweeping them under the carpet; integrity and perseverance; firm conviction without giving an impression that he is wandering in a corridor of indifference; having social skills and emotional stability; good deal of tact but at the same time not show rudeness in his behaviour and setting personal example.

7.28 The deficiencies of leadership which hinder growth of the organisation have not been specifically mentioned in most of the replies. However, a few have stated that the absence of a judicious mix of qualities mentioned by them is likely to hinder the growth of the enterprise.

Tenure of Chief Executive and Style

7.29 With a view to seeking perception based replies on the subject, the following question was asked from the six categories

of persons in the respondent enterprises:

Is the type and effectiveness of the management style related to the period of appointment of Chief Executive? How much minimum tenure of appointment do you suggest for effective leadership style of Chief Executive?

7.30 Most of the replies have pointed out that the type and effectiveness of the management style practised by the Chief Executive is closely related to his tenure in office. However, some of the executives in one high performing enterprise - NTC (TN&P) and 3 low performing ones namely, KIOC, BRPL and HSL hold opposite viewpoint. The Chief Executive of the NTC (TN&P) considers that tenure of Chief Executive has no bearing on the type and effectiveness of his management style, though a fairly long tenure does facilitate the creation of an impact. This is in contrast to the views expressed by other executives in the same organisation. This view of the Chief Executive is based on the contention that any capable leader irrespective of the period of his tenure in office can take bold and meaningful initiatives and leave a mark of his leadership on the organisation.

7.31 As regards the minimum desired tenure of the Chief Executive, varying opinions have been expressed in the replies received. The Chief Executive of the IRE has suggested that in organisations which have taken up major projects with a long gestation period, the tenure of Chief Executive should cover the full period of a project till it attains commercial production. The other suggestion made by a senior executive of ONGC is that the minimum tenure of the Chief Executive can be related to the size of the organisation. For large complex organisations with vast geographical spread, like the ONGC, IOC, the minimum tenure of a Chief Executive should be 5 years while for small organisations with a single campus it could be less, but not less than 3 years. A Functional Director of BRPL, has suggested that the minimum tenure in new organisations should be 5 years and for on-going ones where the systems have already been developed it should be minimum 3 years. However, the Chairman of ONGC has suggested that there should be no limit either in terms of years or date of superannuation for the Chief Executives of commercial organisations. He advocates the adoption of standard practice in the international companies, which stipulates that as long as he is able to ensure growth and effective operation he should not be disturbed.

7.32 The general opinion expressed by the Chief Executives and executives of the remaining respondent enterprises is that the minimum period of appointment of a Chief Executive should be 5 years. A few Expert Committees that have gone into the question of tenure of the Chief Executives have expressed similar opinion. The Report of the Committee to Review Policy for Public Enterprises under Shri Arjun Sengupta (December 1984) recommended that Chief Executive and functional Directors of public enterprises should be given a tenure of 5 years, subject to a probationary period of one year and removal at 3 months' notice for unsatisfactory performance. The Report of the Economic Administrative Reforms Commission on Autonomy and Accountability of Public Enterprises under Shri L.K. Jha (January 1984) held a similar view that the Chief Executive should be given a contract for not less than 5 years in the first instance with a provision for extension for another term of 5 years or a contract upto his superannuation whichever is earlier. Jha Commission were not in favour of placing the person selected, presumably after a careful scrutiny, for a topmost position in a public enterprise by virtue of his background and experience, on probation or being given a short term appointment.

7.33 Main Findings

i) Leadership sets tone for the organisation. Managers, for effective functioning, should have leadership style suited to the situations in their organisations. The overwhelming majority of respondents favour essentially situation and people oriented management style. There are occasions when autocratic approach is found useful. Nevertheless, balance must predominantly shift in favour of participative, democratic and paternalistic approach. The style can be effective if discussions are used as a part of consensus building. It is somewhat similar to the process 'nemawashi' in Japan whereby all sides of an issue are aired.

ii) No distinct management style is discernible in two low performing enterprises namely, HSL and BRPL. In HSL, the entire organisation is said to have been divided in groups based on castes and political beliefs. "Sons of the Soil" spirit is fairly deep-rooted. In such an environment, cohesiveness, team spirit and unity of purpose among various sets of people ^{are} difficult to achieve. In the atmosphere of mutual distrust, managerial style is practised only on individual and self-seeking basis. BRPL is situated in a backward area where the heterogenous structure of the community and fragmentation in the form of varying tribal loyalties have not provided a congenial environment to build

a team spirit and sense of belonging among the employees. In this enterprise, the approach is to meet the day-to-day crisis or emerged priorities. The style, by and large, is 'management by crisis'.

iii) Past background of individual traits of the leader, training, and his previous experience of working with different types of leaders exert considerable influence on his management philosophy and style of functioning.

iv) In high performing enterprises, the managers genuinely base their action on team briefing. The militaristic command and control chain must give way to symphony orchestra like syndrome where the Chief Executive conducts specialists each functioning with his or her own parts and powers.

v) Clarity of vision, commitment to organisation, clear instructions, open communication, concern for people, and ^{fair} treatment are most commonly mentioned leadership qualities which aid managerial excellence.

vi) Managing with given procedures and distinct managerial style of senior executives often poses problems of trade-off between discipline and flexibility; and control and creation. In growing organisations, the point of balance has to shift towards innovation and entrepreneurship.

vii) The type and effectiveness of the management style of the Chief Executive is closely related to his tenure in office. Most of the executives have advocated a minimum

tenure of 5 years for a Chief Executive in multi-unit enterprises. In relatively small and on-going undertakings it should not be less than 3 years. The 'sea gull' management, the process whereby new management fly in and make a lot of noise and fly off again is not considered to be a healthy practice.

viii) No evidence could be gathered in favour of the practice of 'transformation' leadership style which is said to have brought about upward shifts in the levels of performance in high performing companies of the West. Among public sector executives in India, reliance is seen on 'transactional' style implying exchange relationship between superior and subordinate and relying on incentives and rewards for improvement in quality performance.

8. CORPORATE CULTURE

8.1 Every organisation has a culture of its own expressed through several attributes. The organisational culture homogenises the individual values and synthesises them with the basic corporate values. The culture can be energetic or lethargic. Analysis of the cultural attributes may help identifying deficiencies or strengths in the working of the organisation. Research studies conducted have laid great emphasis on values and distinctive corporate cultures for successful functioning of the organisation. For reorientation of organisational culture towards excellence in performance, the "Second Conference of the Chief Executives of Public Enterprises" convened by BPE during May 1984 concluded that the Public Sector Companies should strive to bring about a psychological ethos and inculcate in the employees at all levels, a sense of "esprit de corps", dedication and belonging. It was also emphasised that for ensuring a truly business culture in public enterprises, the present fragmentary approach should be eschewed by a systems approach. The perception based information on shared values, methods of communication and their impact on performance were sought through six questions from six different categories of persons of the selected enterprises.

Prevailing Cultural Attributes

8.2 To ascertain information on major cultural attributes in the selected enterprises, the following question was asked:

What are the major cultural attributes like "spirit of oneness", "quality excellence", "customer satisfaction", etc. of your organisation?

8.3 Various attributes of shared values have been mentioned in the replies. Keeping in view the nature of responses, these have been grouped under the following eight different functional aspects of the organisation:

i) Objectives

- a) Timely completion of work: (NTPC)
- b) Achievement of international standards: (ONGC)
- c) Attainment of objectives: (ONGC)
- d) Concern for society: (IOC)
- e) Cost consciousness: (RCF)
- f) Result oriented performance: (RCF)
- g) Honouring commitments: (NTC-T&P)
- h) Unanimity of objectives: (IISCO)

ii) Organisation Belongingness

- a) Sense of belonging; spirit of oneness; sense of ownership: (NTPC, ONGC, IOC, RCF, NTC(T&P), IRE, IISCO, SAIL, HSL, BRPL)
- b) Pride and confidence in organisation: (NTPC)

iii) Quality

- a) Quality consciousness, quality checks: (NTPC, NTC(TN&P), HPF, BRPL)
- b) Sense of inter-project comparison; spirit of competitiveness: (NTPC, NTC-TN&P)
- c) Quality excellence and assurance (ONGC, IOC, RCF, NTC (TN&P), IRE, HPF, IISCO, HSL)

iv) Customer

- a) Customer satisfaction; customer visits and contacts; and customer services: (ONGC, IOC, BHEL, NTC (TN&P), HPF, IISCO, SAIL, HSL, BRPL)

v) Human Concern

- a) Concern for the people: (ONGC, IOC, BHEL)
- b) Team Spirit: (IOC, BHEL, NTC (TN&P), HSL, BRPL)
- c) Commitment: (IOC)
- d) Inner strength for crisis handling: (IOC)
- e) Respect and mutual trust: (BHEL)
- f) Personal Integrity and fairness: (BHEL)
- g) Maintenance of confidentiality: (BHEL)
- h) Social justice: (NTC-TN&P)
- i) Model employer: (NTC-TN&P)
- j) Safety consciousness: (IRE)
- k) Fair & firm management: (CCL)
- l) Productivity through people: (SAIL)
- m) Industrial work culture: (SAIL)

vi) Leadership

- a) Participation and involvement of employees in management: (NTPC, ONGC, RCF, HPF, SAIL)
- b) Openness: (IOC)

vii) Motivation

- a) Employees' motivation: (ONGC, IOC, IISCO)
- b) Employees' morale and discipline: (BHEL)

viii) Innovation

- a) Technology improvement: (ONGC)
- b) Risk taking: (IOC)

Analysis of the replies shows that cultural attributes have been perceived differently by different people. There seems to be inadequate understanding, awareness and knowledge from practice considerations.

Impact of Cultural Attributes

8.4 The effect of cultural attributes on working and performance of the organisation has been analysed on the basis of replies received from the respondents to the following question:

How do these shared values affect day-to-day working and performance in your organisation?
Please illustrate.

8.5 Almost all the respondents have perceived that corporate culture has favourable and positive effects on various aspects. However, they have not illustrated how the shared values have brought about these effects. Some of the reported impacts relating to different areas are given below:

- i) Organisation
 - a) Helping organisation growth and expansion: (ONGC, NTC(TN&P), IOC)
 - b) Building favourable corporate image: (IOC)
 - c) Achieving business mission: (BHEL)
 - d) Improved organisation effectiveness: (HSL)
- ii) Production, Productivity and Quality
 - a) Day to day working, workmanship and capacity utilisation: (ONGC, RCF, ^{CCCL}NTC(TN&P), IRE, IISCO, HSL)
 - b) Improved performance; higher output; better productivity and yield rates: (ONGC, IOC, BHEL, RCF, NTC(TN&P), IRE, HPF, IISCO, SAIL, HSL)
 - c) Reduction in down-time of plant and machinery; elimination of waste; and restrictive practices: (NTC(TN&P), HPF, IISCO)
 - d) Achieving targets and time schedules: (NTC-TN&P, BRPL)
 - e) Upholding technological leadership; Upgradation of technology; and introduction of new technology: (IOC)
 - f) Keeping high quality and product; and market image: (IISCO)
- iii) Human Aspects
 - a) Spirit of involvement, participation and team working: (ONGC, RCF, NTC(TN&P), BRPL)
 - b) Motivating employees, keeping high morale: (ONGC, IOC, NTC(TN&P), BHEL)

- c) Sense of pride in work and high morale (NTPC, HSL).
- d) Harmonious inter-personal relations and peaceful industrial relations: (IOC, IISCO)
- e) Reduction in absenteeism and effective co-operation: (BHEL, HPF)
- f) Creating congenial working conditions: (SAIL)

iv) Customer

- a) Improving relations and minimising complaints: (IISCO)

v) Suppliers

- a) Making suppliers of plant, machinery and equipments for projects quality conscious: (NTPC)

vi) Innovation

- a) Introduction of new technology: (IISCO)

In two low performing enterprises viz., HSL and BRPL, no distinct and definite corporate cultural attributes are reported to have been developed. The attributes are said to be more talked about in meetings and seminars than practised in the organisation and are not taken with much seriousness. This has adverse impact on performance of work culture, commitment to quality excellence, morale of the employees, harmonising and developing homogeneous relationships, inter-personal communication and timely project implementation. In

HSL, the cultural attributes are perceived to have been eroded due to segmentation and compartmentalisation based on caste and political beliefs, causing widespread depression and mutual distrust. However, customer satisfaction and quality consciousness attributes are said to have made employees proud of their work. In BRPL, the corporate culture is said to be largely on individual basis and very high turnover of executives and locational factors are also to some extent responsible for it.

Communication and Pursuance of Cultural Attributes

8.6 The information on means and methods followed in the communication and pursuance of cultural attributes was obtained through the following question:

How are these values and attributes communicated and pursued in the organisation? Please illustrate.

8.7 One of the crucial aspects of corporate culture is the means and the mechanism of communication and pursuance through which its attributes are perpetuated and transferred from one level to another and from one time period to another in an inbuilt self propelling manner. This requires careful planning and systematic approach. The various methods for

communication and pursuance of the shared values reported to have been used are as follows:

- i) Groups, Forums and Meetings
 - a) Shop floor councils/committees and associations: (HPF, NTC(TN&P), IRE, HSL)
 - b) Creative thinking groups: (ONGC)
 - c) Quality circles/Teams: (BHEL)
 - d) Meetings and Discussions bipartite forums (ONGC, IOC, BHEL, RCF, NTC(TN&P), IRE, IISCO, SAIL, HSL)
- ii) Employees' Unions and Officers' Associations
 - a) Meetings with unions and management (ONGC, NTC(TN&P), IRE)
- iii) Management Style, Practices and Action
 - a) Personal style of management: (BRPL)
 - b) Participative process of management: (IOC, NTC-TN&P)
 - c) Creating spirit of competition through inter-firm comparisons: (NTC-TN&P)
 - d) Practising of attributes and setting examples by seniors: (NTPC, IOC, ONGC)
 - e) Inter personal inter-action/discussions: (ONGC, NTC-TN&P)
 - f) Seniors visiting work sites: (ONGC)
 - g) Department meetings: (BRPL)

iv) Systems and Procedures

- a) Working with time bound targets: (NTC-TN&P)
- b) Information sharing at all levels: (BRPL, NTC-TN&P)

v) Establishment of Separate Departments

- a) Quality control/assurance department: (NTC (TN&P), HSL).

vi) Publications and Publicity

- a) House journals, news letters and magazines: (ONGC, IISCO, IOC, BHEL, SAIL, HSL, BRPL)
- b) Circulation of the mission of the enterprise: (IOC)
- c) Fire and safety bulletins: (BRPL)
- d) Brochures, pamphlets, circulars, write-ups and appeals : (ONGC, IRE, HSL)
- e) Display of targets: (BRPL)
- f) Video films: (ONGC)

vii) Special Celebrations

- a) Quality maintenance month: (NTC-TN&P)

viii) Training and Education Programmes and Seminars

- a) Induction/training: (NTPC)
- b) Training programmes,workshops and seminars: (ONGC, IOC, SAIL)

ix) Motivational Approaches

- a) Rewards for high achievements: (NTC-TN&P)

x) Social and Cultural Activities

- a) Social & Cultural functions: (BHEL)
- b) Community welfare programmes: (BHEL, BRPL)
- c) Sports & Cultural activities: (ONGC, BHEL)

xi) Monitoring and Review

- a) Setting high standards and monitoring effectively: (ONGC)
- b) Periodical monitoring reports: (NTC-TN&P)
- c) Senior level formal review meetings: (ONGC, NTC-TN&P)
- d) Constant review and updating of procedures: (IOC)
- e) Attitude surveys through questionnaires: (ONGC)

On the basis of the replies received it is observed that the methods of communication and pursuance of cultural attributes vary in nature and content from enterprise to enterprise. The HSL has reported that it does not have an established method of communicating cultural attributes.

Awareness of Cultural Attributes

8.8 Awareness and knowledge among the employees about these cultural attributes is essential for perpetuation

and practising cultural attributes. The following question was asked to seek information on this aspect:

Do people in the organisation know these values?

If yes, upto what level these are known and what percentage of total employees they form.

8.9 The extent of knowledge and understanding of the attributes of corporate culture among the employees and the scope and content of these attributes bring out varying positions. In the BRPL, according to a Functional Head, the corporate culture has not yet developed, but its importance is being realised; the other Functional Heads, however, assess that it is known to 30% of the employees at the upper level. Generally, in most of the enterprises, it is believed that the corporate culture is known in IOC ("by and large"), HSL (40-60%), IISCO (upto operator level), NTC-TN&P (75%), HPF (76% of workforce), CNGC (60% upto grass-root level), IOC (90%), BHEL (all executives, 60% non-executives), IRE (upto supervisory staff: 58%) and CCL (all executives and skilled workmen). The other positions, however, are that (i) the attributes of corporate culture are known only upto upper/senior/technical levels (HSL, BRPL); (ii) these are talked more than practised

(HSL); (iii) these are mostly known but 25-40% are able to put into practice (HSL); (iv) most of the employees know but only 30% them know more characteristically (NTPC); only 40% of those who know have imbibed these attributes (IOC). The Trade Union reply from the IISCO, however, has mentioned that many employees do not know the attributes of corporate culture. This view is, however, contrary to the CMD and Unit Heads' perception that most employees are aware about them.

Cultural Attributes Contributing to High Performance

8.10 The analysis of the attributes of corporate culture which contribute to consistently high performance is based on the following question:

Based on your experience, what are the attributes of corporate culture, which contribute to consistently high performance? How have these developed and changed in your organisation?

8.11 The responding individuals belonging to different categories have indicated various attributes of culture which in their perception contribute to consistently high performance

These have been grouped under eight different functional areas and indicated against each respondent enterprise in Annexure I of this chapter. It would be seen from the contents of the Annexure that most of the respondents have perceived the cultural attributes relating to human concern, leadership and motivation to be of overwhelming importance for high performance.

Influence of Outside Social Culture

8.12 The impact of outside social culture on organisation behaviour has been enquired through the following question:

What aspects of outside social culture influence the organisational behaviour? In what way this culture helps or hinders the organisation requirements? Please illustrate.

8.13 Almost all the respondents feel that the outside social culture and environment influence the organisation behaviour in different ways according to local attributes of each area concerned. In BIPL, which is situated in a backward area, the social structures of the community, the local culture of aloofness of neither mixing with others nor allowing others to mix and the attitude of not accepting the culture

from outside the State are reported to have adversely affected the organisation requirements of team spirit and sense of belonging and oneness. The 'sons of the soil' spirit deep rooted in the HSL is believed to hinder growth. The units of the RCF and IOC located in the Bombay region get deeply influenced by the region's individual industrial culture. With good communication system in this region, people in the enterprises are aware of the provision in the surrounding enterprises particularly about welfare benefits, labour practices and management practices which influence thinking and employer-employee relations. In ONGC, the unstable socio-political situation in the North Eastern region results in lower than expected exploratory and production activities and the high expectation of the people in Assam for employment in ONGC is said to generate unrest. In HPF, the joint family type of village culture in the area promotes team spirit for better performance, but is perceived to create groupism. BHEL have established their own culture and is not influenced by such outside environmental factors as are detrimental to the organisation.

In HSL, the organisation is said to have been divided into groups based on caste and political beliefs. It has been mentioned by a number of respondents that the outside social culture influences the organisation behaviour both in a positive and in a negative way. The congenial cultural background and environment of engineering colleges from whom most of the engineers in KIOC come had a good impact on organisation behaviour.

8.14 Besides, the trade unions and the political and economic environment are also reported to exercise influence on organisation behaviour. Trade Unions with diverse political affiliations hinder organisation working (NFC-TAP), inter-union rivalry in neighbouring units influences organisation behaviour (IISCO) and politicisation of trade unions has led to intra-union fights in the organisation (KIOC). In IISCO, political instability had tremendous effect on organisation behaviour and in SAIL the political and law and order aspects and the government and politicians continuously influence the organisation behaviour. The existence of other public and private sector enterprises in the area affects the working of the organisation e.g.

through unions, demand for benefits and welfare facilities. The organisation behaviour is influenced both positively and negatively by several location-specific social, economic, political and work culture aspects of an enterprise. But according to NTC (T&P) when these get blended into the organisation in an appropriate way through deliberate managerial action these lead to better industrial relations and excellence in performance.

8.15 Main Findings

- i) The cultural attributes have been perceived differently by different people and many a time have been mixed up with healthy functioning aspects of the organisation.
- ii) The understanding, awareness and knowledge of cultural attributes is largely inadequate and unclear from practical considerations.
- iii) Many of the cultural attributes are practised in a ritualistic manner rather than as substantive commitments. These are talked about and widely publicised, but are not practised and pursued in a systematic manner.
- iv) The approach to develop and practise cultural attributes, wherever it exists in one form or the other, is fragmentary and piecemeal.

- v) The outside social, political and economic environment exercises a forceful influence on the organisation culture. For instance, caste system, inter-union rivalry, local political instability, unfavourable market conditions adversely effect organisation working.
- vi) The corporate culture is influenced by the technical and technological conditions of the plants and the trends of production performance.

Cultural Attributes Contributing to High Performance
Grouped Under Different Aspects

Enterprise Objectives	Organisation	Quality	Customer	Human Concern	Leadership	Motivation	Innovation
1. Objectives	1. Organisation	1. Quality	1. Customer	1. Human Concern	1. Leadership	1. Motivation	1. Innovation
2. Objectives	2. Organisation	2. Quality	2. Customer	2. Human Concern	2. Leadership	2. Motivation	2. Innovation
3. Objectives	3. Organisation	3. Quality	3. Customer	3. Human Concern	3. Leadership	3. Motivation	3. Innovation
1. IRE	Quality excellence	Customer satisfaction	Good wage structure	Attractive welfare schemes	Fair & firm management	Proper performance evaluation	8
2. CCL	Sense of belonging	Participative style	Stringent quality checks	Healthy inter-project comparison	Quality consciousness and excellence	Participative style	9
3. NTPC	Unanimity of objectives	Timely completion of work	Pride and confidence	Quality in organisation	Quality consciousness and excellence	Participative style	16

Enter- prise	Objec- tives	Organiza- tion belong- ingness	Quality	Customer	Human Concern	Leadership	Motivation	Innovation
1	2	3	4	5	6	7	8	9
4. IOC	Goal congru- ence	Feeling of owner- ship & belong- ing	Commit- ment to quality	Good Customer service	Co-ordina- tory of inter- action	Morale	productivity improvement	
	Desire to excel		Quality consci- ousness		Uniform personnel policy		Effective use of time	
		Sense of pride and loyal- ty		Commit- ment to work			Stress on R & D	
					Team spirit			
5. ONGC	Opti- num uti- lisa- tion	Spirit of oneness & devo- tion	Sense of belonging		Partici- pative culture	Rewards and punish- ment systems	Innovation	
	of resou- rces				Leader- ship style	Motivation scheme		
					Concern for people	of Chief Executives		
						Fair deal- ings with employees		
	Common objec- tives							

Enterprise	Objectives	Organization belongingness	Quality	Customer Concern	Leadership Motivation	Innovation
1	2	3	4	5	6	7
					8	9

60 RCF

Career growth Participative management style
Family Family style
Welfare

7. BHEL	<p>Feeling of belonging, and spirit of oneness</p> <p>Reliable quality of products</p> <p>Concern for employees & their families</p> <p>Customer service & satisfaction</p>	Employee morale and discipline	Productivity improvement projects
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business assurance after groups sales contracts of maintenance

High degree of customer confidence	services	of confidentiality
		Team work
		Respect and mutual trust
		Integrity and fairness in dealings

Healthy competition among sister units

Enter- prise	Objec- tives	Organiza- tion	Quality	Customer	Human Concern	Leadership	Motivation	Innovation
1	2	3	4	5	6	7	8	9

8. HPP

Workers
participa-
tion in
manage-
ment

Conselta-
tions at
all
levels

9. NTC (TN&P)	Time limits for achie- ving stand- ards	The sense of belong- ingness and owner- ship	Customer satis- faction	Team spirit	Urge to excel	Recognition of merit

Feeling of
competitiveness
Mutual
discussions
Motivation
through
awards
Growth
of
individuals
Clarity and
consistency
of instructions
Regular follow-up
Participative
decision making
Close supervision
Communication of
plans
Honouring commitments

Enter- prise	Objec- tives	Organiza- tion	Quality	Customer	Human Concern	Leadership	Motivation	Innovation
1	2	3	4	5	6	7	8	9
10. IISCO	Sense of belong- ing	Involvement in working process	Pride in skill and experience	Respect to authority	Job satisfaction	Proper industrial climate	Commitments sincerity, punctuality	Satisfactory work environ- ment
11. SAIL	Spirit of oneness	Customer satis- faction	Industrial work culture	Participative management	Self discip- line			Productivity through people

Enter- prise	Objec- tives	Organiza- tion	Quality	Customer	Human Concern	Leadership	Motiva- tion	Innovation
12.KIOC	No	Material	Received	In	The	Reply		
13.BRPL	Unity of purpo- se	Trust and loyalty						
		Sense of belong- ing and spirit of oneness						
			Sharing of infor- mation by all					
				Team spirit	Openess and intimacy			
					Fair minded human approach	Inter- actions in meetings		
						Clarity of thought		
						Clarity of roles and cycle- gation		
							Selection criteria for perfor- mance	
2	1	2	3	4	5	6	7	8
								9

Appreciation of
suggestions

Enter- prise	Objec- tives	Organi- sation	Quality	Customer	Human Concern	Leadership	Motivation	Innovation
1	2	3	4	5	6	7	8	9

14. HSL

Pride
in and
loyalty
to
organ-
isation
Capacity
to
unite
Customer
satis-
faction
to
organ-
isation
Sense
of
one-
ness
and
belong-
ing
Honesty
of
purpose
Ability
to
visual-
ise
Bound
per-
son-
nel
policy
Team
work

9. ORGANISATIONAL STRUCTURE

9.1 Organisational structure portrays division of work among different functionaries and departments. It creates a network of horizontal, vertical and lateral authority - responsibility relationships. New organisational structures have been evolved from time to time to meet the changing requirements of internal and external environment. Eleven questions were framed to get insight into various aspects of organisational structure.

Salient Features

9.2 To get general description about the organisational structure the following question was asked:

What are the salient features and characteristics of your organisation structure? Briefly describe its functioning with reference to its pattern like bureaucratic, divisionalisation, centralisation, matrix

9.3 The operational pattern of organisation structure in the 14 enterprises is a mix of "centralisation" and "decentralisation" with integrating mechanisms, having a lot of in-built flexibility to accommodate functional requirements. Centralisation is restricted to policy making at the company level, and decentralisation is based on divisional concept. All the respondent enterprises with the exception of IRE, KIOC and NTC(TN&P) have a matrix structure with divisionalisation in some departments/functions. Divisionalisation in

IRE and CCL has been followed in production areas; in the NTPC, it pertains to different power generation projects; in the ONGC, it is regional; while in the BHEL, it is according to products. The salient features of the organisation structure in ONGC, NTPC and BHEL are as follows. In the ONGC, the 4 regional divisions are headed by Regional Executive Directors who are responsible for exploration, drilling and production of oil and natural gas in respective on-land regions and Bombay-High off shore area. The NTPC and BHEL have a three-tier organisation structure. In the former, the three tiers in the organisation set-up are Corporate Centre, Regional Offices and Projects. At the Corporate Centre, the various functional specialisations form different functional divisions. The Regional Offices look after all the power generation plants and transmission lines in their respective areas. The projects form different Divisions. The three-tier organisation structure in the BHEL comprises of corporate level, Business Sector level and Divisional level. At the corporate level, the organisation structure has a Board of Directors presided over by the Chairman-cum-Managing Director. The Business Sector has got a number of Divisions, each handling a group of products. Again, each of the products has been organised into a separate self-contained unit on the principle of 'profit centre'. A Product Manager looks after each 'profit centre'. The marketing

orientation is achieved through the Business Sector Groups and technology drive is provided by the Product Manager. All these Divisions also, by and large, have functional groups in the areas of Personnel, Engineering, Materials, Finance etc. The different operating units/divisions are headed by Executive Directors/Group General Managers.

9.4 The replies of the respondent enterprises further indicate different patterns of "centralisation" and "decentralisation". In ONGC, the members of the Apex Body are concerned with policy making, coordination and interaction with international companies, and execution of policies is decentralised in the four Regional Divisions. In another high performing enterprise NTC (TN&P) and three low performing enterprises namely, IISCO, KIOC and BRPL a high degree of centralisation has been reported. In NTC (TN&P) while the General Manager of the mill is free to sell yarn the price of yarn is fixed by the pricing committee at the corporate level. IISCO though functioning on divisionalised pattern had centralised the main functions of Finance, Personnel, Materials, Medical and the like at the company level. Each Division reports to the Unit Head for administrative control and the Functional Chief for functional control under the centralised system. Similarly, KIOC have centralised Materials Management, Marketing and Finance divisions, and decentralised the functioning of other divisions like Personnel and Administration, Construction,

Operation & Maintenance for the sake of operational exigencies. In BRPL, limited scope for decentralised functioning has been reported.

Organisation Layers

9.5 The layers of positions in between the first line supervisors and the Chairman in the organisation structure reflect the chain of command, and the number of persons directly reporting to each position denotes the span of control. It is commonly believed that the effectiveness of the communication network in the organisation depends on the number of layers of positions and the number of persons directly working under them. To seek information on the organisation layers and how these affect communication, the following two questions were asked:

- i) How many layers of positions have you in between the first line of supervisors and the Chairman in different functional areas and what is the number of persons directly working under them?
- ii) Does the number of layers of positions in your organisation create communication gaps? If yes, please give some examples.

9.6 Replies reveal that in 3 high performing enterprises namely, CCL, IOC and BHEL and in HSL (low performing) there are 8-12 layers of positions in between the first line supervisors and the Chief Executive. Four high performing enterprises

namely, IRE, RCF, HPF and NTC (TN&P) and four low performing ones viz., IISCO, SAIL, KIOC and BRPL have reported 3-6 layers of positions. NTPC have reported eight different grades instead of the specific layers of positions between the first line supervisors and the Chief Executive. The grades are pre-determined (as are prevalent in public sector undertakings) and do not necessarily connote levels of responsibility, which irrespective of the grades are determined on the basis of actual needs. ONGC have not mentioned specifically the number of layers of positions.

9.7 As regards the number of persons directly working under each layer, replies do not reveal any precise norm of the optimum span of control. The number of persons directly working under the people at various supervisory levels differs considerably depending upon the functional area, workload and nature of assignment, etc. Out of 14 respondent enterprises, 3 high performing companies namely; CCL, NTPC and ONGC and 2 low performing ones viz., IISCO and BRPL have supplied information in this respect while the remaining nine enterprises have stated that the number of persons directly working under each layer of position varies. The number of persons directly working under each layer in CCL is 20-25; in ONGC, it varies from a few (3 to 5) to as many as 30 or more. In NTPC, the span of control varies from 2 to 4 persons for

the first line supervisors and from 4 to 8 persons in case of senior level executives, depending upon the functional area. In functions like engineering, the span of control is less, whereas for works such as site construction, it is more. In IISCO, on an average, 4 to 8 persons report to their higher level while in BRPL the number ranges from 27 to 430, the highest being in the Operations and Maintenance Divisions and lowest in the Projects Division.

9.8 The proposition that fewer the number of layers of positions, lesser is the chance of communication gaps and vice versa is true in limited cases understudy. In 3 high performing enterprises namely, IRE, HPF and NTC (TN&P) and 2 low performing ones viz. IISCO and KIOC, having fewer number of layers, no communication gaps are reported. IOC having large number of layers has reported communication gaps. On the other hand, 3 enterprises namely, NTPC, BHEL and HSL with multiple layers have reported that they did not experience any communication gaps, and 3 companies namely, RCF, SAIL and BRPL, having only a few layers, were not free from communication gaps. ONGC even though a large company have reported no communication gaps. It seems, communication gap depends on multiple variables like leadership style, organisation culture. CCL has not supplied any information in this regard.

Authority and Responsibility

9.9 In an enterprise, the executives are assigned responsibilities and are expected to be accountable for performance in their respective assignments. For this purpose, commensurate authority needs to be vested in them. To seek factual information in this regard, the following two questions were asked:

- i) What is the system of delegation of authority? Enclose copies of important circulars/manuals.
- ii) Were there any cases of mismatch of authority, responsibility and accountability affecting the performance adversely over the last 2 years? Please provide some examples.

9.10 The system of delegation of powers is in vogue in all the fourteen high and low performing respondent enterprises. The Board of Directors which is a top management organ in the organisation hierarchy derives powers from the Memorandum and Articles of Association. For the management of company's affairs, the executive powers of the Board are delegated to the Chief Executive. Taking into account the various operational requirements of the organisation, the Chief Executive, with the approval of the Board of Directors, in turn, delegates specific powers further down the line to Functional Directors, Divisions/Unit heads and other executives

from time to time. The delegated powers below the level of Chief Executive in the respondent enterprises are reported to encompass areas of expenditure approval; personnel and administration including discipline, recruitment, promotion and training; legal affairs; materials management; commercial matters; etc. Delegation of powers is regulated throughout the organisation by means of written communication in the form of Instructional Orders/ Standing Orders, Circulars and Procedure Manuals.

9.11 The copies of the Standing Orders/Circulars/Procedure Manuals etc. have been supplied by 6 high performing enterprises namely, CCL, NTPC, IOC, ONGC, BHEL and NTC (TN&P) and 3 low performing ones viz. SAIL, KIOT, and BRPL. In IISCO, a compendium of delegation of powers is prepared and distributed to all concerned executives for ready reference. The pattern of delegation of powers in these enterprises, as seen from the information received, is more or less uniform in the sense that the powers delegated are mostly of routine nature to take care of administrative matters rather than policy decisions. Some variations are, however, seen ^{and there} ~~here~~ in the delegated powers as spelt out by the 9 respondent enterprises. For instance, in the BRPL the delegated powers are not clearly defined and approvals of higher authorities are sought even in small matters, whereas in the ONGC and SAIL these are more elaborately enunciated.

9.12 Mismatch of Authority and Responsibility: No alarming cases of mismatch of authority and responsibility affecting performance adversely have been reported by the 9 high performing enterprises and 2 low performing ones viz., IISCO and KIOC. SAIL did not supply any information on the subject. Inadequacies of authority when experienced are resolved by respondent undertakings through periodic review of schedule of 'Delegation of Powers' without affecting over-all performance of the organisation. In NTPC, performance appraisal system against targets ensures accountability. In BHEL, any mismatch of this type is taken care of by defining the responsibilities clearly, vesting the executives with commensurate authority for discharging the same and holding the person concerned accountable. In RCF, with its working style, cases of mismatch, if any, are instantly sorted out. In BRPL and HSL, some mismatches posed serious problems. In BRPL, mismatches occurred due to general reluctance on the part of the executives to take up responsibility. The individual perceptions tended to breed confusion and lack of proper communication, which led to unsavoury situations. In HSL, mismatches were experienced at the time when certain matters e.g. contract administration and legal matters, were being dealt with by several persons with overlapping demarcations.

Special Purpose Groups

9.13 The organisational structures of public sector enterprises are changed sparingly to respond to environmental shifts or some statutory compulsions. However, informal organisational forms are evolved and incorporated therein to subserve specific purposes without affecting the core structure. This is done by forming special purpose temporary groups like task forces, product teams, project centres, working groups, quality circles. To seek factual information in this regard, the following question was asked from the respondent enterprises:

Do you have the practice of forming temporary groups like task forces, product teams, project centres, working groups, quality circles? If yes, please give the list of such groups formed over the last three years with the following particulars:

- (i) purpose;
- (ii) duration;
- (iii) number of persons in the group;
- (iv) method of deciding its membership - voluntary or decided by senior executives
- (v) method of designating the leader;
- (vi) whether any formal orders issued for forming such groups;
- (vii) any specific supporting staff provided;
- (viii) nature of documents/reports prepared; and
- (ix) mechanism for follow-up action.

9.14 Replies reveal that in the 6 high performing enterprises namely, NTPC, IOC, ONGC, RCF, BHEL and HPF, and 3 low performing ones viz., the IISCO, SAIL and HSL there is a common practice to form temporary special purpose organisational groups by various units/departments all over the organisation on a continual basis. BRPL has started the practice only recently to look into (i) problem areas and corrective action needed in DMT manufacture; (ii) improvement in power plant operations; and (iii) policies and procedures. In IRE, the Minerals Division has 5 quality circles. In the NTC (TN&P), some regulatory functional committees have been formed as a safeguard against any chances of misuse of decentralised authority by the executives e.g. Yarn Price Fixing Committee. In KIOC, there is no practice of forming temporary special purpose organisational groups like task forces, product teams, project centres, working groups, quality circles etc. The CCL has sent no information in this regard.

9.15 The temporary organisational groups are set up for certain specific tasks e.g. developing strategies/Action Plan (in SAIL), for product development and improvement of product features (SAIL and BHEL), for revision of installed capacity, study of the quality complaints (HPF), for taking up management and special studies in important areas of operation with a view to improving efficiency or tackling specific problems in

in operational areas and cost reduction in Operations (ONGC). Besides, in HPF the Management constituted functional committees such as Operating Committee, Inventory Control Committee, Product Committee, Project Implementing Committee, Safety Committee. The respondent enterprises, however, did not supply the list of such temporary special purpose organisational groups set up by them. The list, according to them, is too exhaustive.

9.16 For forming such groups, normally a formal office order is issued, indicating the purpose, duration/time by which the deliberations are expected to be completed. The guidelines followed for their formation are flexible and depend on the nature of the task involved. These groups are given specific time bound schedule of working to complete the task assigned. Membership of such a group depends upon the requirement of the task, and is decided by senior executives or in some enterprises like RCF it is also voluntary. Members are usually drawn from different functional areas - Production, Quality Control, Marketing etc. Generally the seniormost person in the constituted group is designated as the leader or convenor. In IOC and RCF, some supporting staff for the purpose is also provided to the Group, whereas in ONGC and IISCO, no specific supporting staff is provided but the Committee or

the Group can take the assistance of various concerned departments. These groups produced documents like FR/DPR, Study Reports, Long Range and Perspective Plans, Board notes etc. The findings contained in these documents are reviewed by the functional heads. If recommendations made by these groups are accepted, necessary guidelines are given by the management for their implementation by the concerned department(s). Follow-up is done at the highest level either by way of reviews through periodical submission of reports or through monthly meetings taken by the Chief Executive.

Board of Directors

9.17 The Board of Directors is the kingpin for policy, planning, direction and control of the public enterprise. The success of an enterprise, to a considerable extent, depends upon the quality and contribution of Board members and how far the Board is effective in directing the affairs of the business to achieve excellence in performance. To seek factual information from the respondent enterprises on Board of Directors, the following 2 questions were asked:

- i) What is the existing formation of the Board of Directors and what are its powers?
- ii) What were the main directions provided by the Board of Directors in policy formulation, investment planning and major operational areas of the undertaking over the last 2 years?

9.18 Composition of the Board: The Board of Directors is presided over by a full-time Chairman (IOC, ONGC and SAIL); and by a Chairman-cum-Managing Director (IRE, CCL, NTPC, RCF, BHEL, HPF, NTC (TN&P), KIOC, BRPL and HSL). In IISCO, the offices of Chairman and Managing Director are separate, the former being part-time, and the latter being the full time Chief Executive of the Company. Besides the Chief Executive, the Board of Directors has a complement of full time functional directors and part-time Directors. Of the 14 respondent enterprises, the 3 subsidiary companies namely, NTC (TN&P) of NTC, IISCO (SAIL), and CCL (CIL) have their own Boards of Directors the composition of which is more or less on the same pattern as in their respective principal holding companies.

9.19 Replies of the respondent enterprises indicate that the size of the Board of Directors ranges from 6 to 15 members. In multi-unit and multi-dimensional large enterprises such as NTPC, IOC, ONGC, BHEL, NTC (TN&P) and SAIL the size of the Board of Directors is relatively larger as compared to other companies like IRE, CCL, RCF, HPF, IISCO, KIOC, BRPL and HSL.

9.20 As regards representation of Functional Directors on the Board, their number in large multi-unit enterprises varies from 4 to 6 (except NTC (TN&P) wherein the number of such Directors is 3) while in relatively smaller enterprises like IRE, RCF, IISCO, KIOC, HSL the maximum number of Functional Directors is

is 1 or 2. On the other hand, the number of part-time Directors varies from 2 to 6 in different respondent enterprises, the only exception being the NTC (TN&P) having 9 part-time Directors.

9.21 In tune with the recent trend towards professionalisation of Board of Directors, the Chief Executives and functional Directors appointed on most of the public enterprises boards are professionals rather than bureaucrats or politicians. Replies from 14 respondent enterprises reveal that all the Chief Executives are professionals. In NTPC, BHEL and BRPL the positions of Chief Executives have been filled by elevating senior executives from within the organisation. The full-time Directors are also all professionals with functional specialisation in the related fields such as technical, production, projects, finance, personnel and administration, R&D, Marketing, Corporate Planning. Most of the respondent enterprises have a Director (Technical) and Director (Finance) on their Boards. The only exceptions are IISCO having no separate Director (Technical) and IRE with no separate Director (Finance). In the 4 respondent enterprises, with no separate Director (Technical), technical functions are performed by Director (Refineries and Pipelines) in the IOC, by Director (Production and Engineering) in the HPF, by Director (Production and Projects) in the KIOC, and by Director (Production) in the BRPL. Six high performing multi-unit companies namely, CCL, IOC, ONGC, BHEL, HPF and NTC (TN&P) and 2 low performing companies viz., SAIL and BRPL have a separate full-time Director to look

after Personnel & Administration Department. There is a full-time Director to manage the Marketing Division in 4 respondent companies viz. NTPC, IOC, HPF and SAIL. However, the SAIL is the only company among the respondent enterprises to have full-time Director (Corporate Planning). Thus, it is seen that there is relatively more professionalisation of Boards of Directors in the large multi-unit enterprises except that in the NTC (TN&P).

9.22 Part-time Directors appointed on the Boards are officials as well as non-officials. As regards official Directors, generally three categories of persons are nominated by the Government to the Boards in their ex-officio capacities viz., (i) officials usually, of the rank of Joint Secretary or Additional Secretary, of the concerned Administrative Ministry, (ii) officials of other Ministries in the Central Government, and (iii) officials of the State Government. The concerned Administrative Ministry normally have 2 nominees on the Board of each public enterprise under its control, one representing administrative and another financial aspect. The non-official Directors are nominated by the Government to give representation to certain interest groups e.g. industry, business, trade unions etc. The replies reveal that in a number of respondent enterprises the part-time Directors in the Boards are more than the full-time Directors. This status is conspicuously present in the case of IRE, NTC (TN&P), KIOC and HSL where around 70 to 80 percent of the Board Directors are part-time. The only exception is ONGC where only 2 out of 10 Directors are part-time.

9.23 Powers: The Chief Executive is vested with wide authority and responsibility to manage the enterprise's operation. The Boards function within the periphery of Government control in ^{to that extent} the matter of decisions on key issues, and have limited freedom to take policy decisions even regarding production, marketing, personnel and formulation of annual capital and operating budgets. The long term plans and policies are determined by the Board in consonance with the Government directives, while there is some flexibility to determine short term policies and plans. There are certain critical areas like Finance and major investments where the Government exercises extensive control over the Boards of public enterprises by nominating a representative of the Finance Ministry on the Board, and determining the nature of major investments by the priorities indicated in the national plan, and reserving to themselves the power to approve capital outlays exceeding certain financial limits. The annual capital budgets of the concerned enterprises are also subjected to scrutiny and approval by the Government. All investment proposals involving an outlay of Rs.20 crores and above are approved by the Government after an elaborate process of clearances by the Public Investment Board of the Ministry of Finance. The investment proposals involving outlay of over 5 crores but not exceeding Rs.20 crores are examined and approved

by the Expenditure Finance Committee, chaired by the Secretary (Expenditure) in the Central Finance Ministry. In the matter of pricing, the public enterprises engaged in the production of petroleum and petroleum products, and fertilisers enjoy little freedom and are guided by the government policy of administered prices.

9.24 In general, the replies indicate that the Board provides directions in areas relating to policy matters, investment planning and operational activities. Three high performing enterprises namely, IRE, ONGC and NTC (TN&P) and three low performing ones viz. IISCO, BRPL and HSL only have been certain instances of directions given by the Board. The IRE has mentioned that the directions given by the Board related to: (i) marketing strategies for foreign markets, (ii) diversification plan for separating individual rare earths products of high value, (iii) modernisation and replacement programmes for Rare Earths and Minerals Divisions, (iv) formation of OSCOM as a subsidiary of IRE; (v) financing of new projects costing upto Rs.10 crores by leasing, and (vi) wage settlements effective from 1.7.1985. The ONGC indicated the instances as (i) strengthening the 3 existing R & D Institutes and setting up of 2 new Institutes - of Production Technology and Engineering and Ocean Technology; (ii) making the R & D Institutes 'Project Centres'; (iii) formulation and approval of Perspective Plan for Environment Management and (iv) Setting up of a separate department of Safety and Environment. The NTC (TN&P) Board is reported to have approved

modernisation project for improving product range and technology. Among the low performing enterprises, directions given by IISCO Board are reported to be: (i) maximising sale of scrap and secondary products, and (ii) enhancing expenditure for improving the health of the plants and equipments. The directions given by the BRPL Board have been: (i) restricting investment to on-going projects, and (ii) planning refinery and petro-chemical production for 5 years. The HSL Board issued directions in respect of: (i) recruitment, strength of employees and wage structure; (ii) reduction of expenditure on establishment and (iii) dealing directly with manufacturers for purchase of materials. The remaining 6 high performing enterprises (CCL, NTPC, IOC, RCF, BHEL, HPF) and 2 low performing companies (SAIL and KIOC) have not given any instances of directions given by their respective Boards.

Promotion of Innovation

9.25 Generation of new ideas is not the sole preserve of the high echelons in an organisation. Even the smallest person in the hierarchy can infuse some fresh thinking on crucial aspects. The organisational structure plays a vital role in promoting innovation among its employees. To seek factual information from the respondent enterprises on the subject the following question was asked:

Does your organisation structure have in-built provision for promoting innovation at individual and group levels? Describe its salient features and experience of its operation

9.26 Replies indicate that there is some in-built provision in the organisation structure for promoting innovation at individual and group levels in almost all the respondent enterprise. A low performing enterprise - BRPL - seems to be the only exception in this regard. The Chief Executive of BRPL has pointed out that innovative qualities of the staff are recorded in confidential reports and are taken into account for promotions. However, one of the Functional Directors contends that since BRPL is a single unit organisation at one location with restricted areas of functions, saturation has already set in and the chances for in-built provision of promotion of innovation in the company are, thus, very limited. By and large, the executives and others in the workforce find it hardly attractive to apply their minds to think of some innovations in the working of the company.

9.27 NTPC working style is reported to provide considerable amount of flexibility to the employees for using their skill or expertise to innovate in their assignments. IOC, right from its inception are said to have an open communication culture which encourages initiative to make innovative suggestions as part of job assignments. The specialised departments such as Training, Technical Services, Management Services, Human

Resource Development and Corporate Planning are constantly helping this process. In ONGC, creative thinking groups have been set up for encouraging generation of new ideas, and system of recognising innovation introduced through a special publication "PACE SETTER". As experience, it has been cited by the ONGC that innovation in (i) rig transportation had improved drilling efficiency and production facilities, consequently bringing about cost reduction; (ii) development of a Rat Hole Drilling Device has brought about a saving of Rs.15 lakhs in foreign exchange; (iii) development of a photoinclinometer instrument is likely to bring about saving of foreign exchange of approximately \$ 100,000 per annum. In HSL, the organisational structure with vertical and horizontal linkages is reported to afford considerable scope for matrix management and promote innovation at individual and group levels.

9.28 In the 6 high performing enterprises namely, IRE, CCL, RCF, BHEL, HPF and NTC (TN&P), and 3 low performing ones viz., IISCO, SAIL and KIOC, the promotion of innovation at individual and group levels is practised through suggestion schemes. In addition, 3 enterprises namely, IRE, BHEL and HPF have Quality Circles to promote innovation. The Quality Circles meet periodically to identify, analyse and tackle manifold problems in the areas of quality, production, product improvement, cost reduction, safety and even in marketing. The Suggestions Schemes aim at encouraging the employees to come out with innovative ideas

for product development, improving productivity or enhancing efficiency in operations etc. In BHEL, during the year 1985-86, over 16,000 suggestions are reported to have been received. The "Cash Your Idea" Scheme, as it is known in the HPF, has worked very well in boosting the morale of the employees who gave many money-saving and time-saving ideas in various areas of operation. In the ONGC, besides these usual incentives, accelerated promotions and advance increments are also given.

Change of Structure

9.29 Changes in organisation structure are necessitated by several factors such as modifications in policies and strategies, internal and external environmental impacts, growth orientation. To seek factual information in this respect, the following 2 questions were asked:

- i) Do you have a practice of periodically reviewing the structure of the organisation/departments? If yes, how it is done and when was it done last? Please illustrate.
- ii) Was any study made for assessing the need for change of the structure of the organisation at central and departmental levels? If yes, when was such a study (ies) made, who had undertaken it, and what were the changes introduced based upon the findings of the study(ies)?

9.30 Replies of the 14 respondent enterprises have indicated that there is a common practice with them to review the organisati

structure as and when required. In some, it is a continuous process of review and updating. Some of the enterprises undertake studies on the subject as a part of internal exercise, while a few others have also engaged reputed management consultancy firms/organisations for re-structuring their set-up. The changes in the structure have ^{been} generally manifested in the reorganisation of various departments/functions or the creation of new Divisions.

9.31 Three high performing respondent enterprises namely, ONGC, RCF and NTC (TN&P) and 2 low performing ones viz., KIOC and HSL have reported that changes in the organisational set-up have been introduced only through periodical reviews and no specific study has been made for the purpose. Such reviews are, by and large, made by a few senior officers in the enterprise. Some of the few illustrative cases of reviews are as follows:

(i) In ONGC, the last review was done in 1982 through SWOT analysis and a reorganised set-up on the basis of regional business centre concept was introduced in July, 1984. The restructured organisation on these lines did not work well and further changes were made by replacing the regional business centre concept by regional divisionalisation with ONGC being an apex body.

(ii) The NTC (TN&P) reorganised its Retail Marketing Department and reduced the number of Divisions to 2 from 3 due to changes in the environmental situation.

(iii) A comprehensive review of the organisation in HSL was last done in March 1982 for establishing stabilised strength.

9.32 Two high performing respondent enterprises namely, BHEL and HPF, and 2 low performing companies - IISCO and SAIL have reported that studies were undertaken by them internally to restructure their organisational set-up. The illustrations of specific studies undertaken and changes introduced by them are:

(i) In BHEL, as a result of a study at the sectoral level in association with its Corporate Planning Department in 1979-80, 3 Business Sectors namely, Power, Industry and Transportation were formed, and a new Division called Service After Sales Division was created. Another study made at the corporate level in 1985 initiated the positioning of Product Managers in the company to promote the strategic 'Profit Centre' concept, putting higher thrust on product-wise operations.

(ii) During 1984-85 when the HPF proposed to enter into new lines of business activities, on the basis of a study of its Industrial Engineering Department, the organisation structure was suitably changed to create new Divisions.

(iii) The review of the organisation structure in respect of IISCO is done by the Holding Company and the subsidiary company has only limited freedom to make changes in departmental structure. Based on a study in the middle of 1985 at SAIL corporate level, the reporting levels in IISCO were reduced from the then existing 10 levels to 4-5 levels.

(iv) As a result of a study in SAIL, the responsibility levels below the General Manager were reduced to 5 scales in the plants.

9.33 Two high performing respondent enterprises namely, IRE and IOC have reported that besides internal exercise of review they engaged outside management consultancy agencies to assess the need for change in the organisation structure. The IRE reviewed its structure in 1978 and created new Division namely, Project Division to meet the need of changes in strategy and growth pattern. Similarly, on their own, a review for reorganisation of the Accounts Department of the Thorium Division was also undertaken. Besides, IRE entrusted to MBS Services Pvt. Ltd a comparative study of IRE and OSCOM project combined and IRE with OSCOM as wholly owned subsidiary of IRE. The IOC engaged a few outside agencies such as Administrative Staff College of India, National Productivity Council and, Foundation for Organisation Research to do some studies for restructuring the organisation and on the basis

of these studies, the company introduced changes in the units as well as at Head Office. Besides, at its own level, IOC conducted in 1986 a major study to go into the existing structure of the Marketing Division followed by a similar study initiated for corporate office in the year 1987.

9.34 Two high performing respondent enterprises namely, CCL and NTPC and a low performing company - BRPL - engaged outside agencies to conduct specific studies to restructure their respective organisation set-up. In CCL, the organisational structure was built on the basis of in-depth studies by Administrative Staff College of India, Indian Institutes of Management and other consultants. In NTPC, as a result of intensive studies made by certain management consultancy agencies, reorganisation of structure was lately done in 1985. The BRPL finalised its organisation structure on the basis of a fresh grass root study conducted by National Productivity Council during 1985-86.

Main Findings

9.35 The information received from the respondent enterprises on the various facets of organisational structure was found to be of varying degree of completeness and conceptual understanding, and has constrained the analysis presented in the chapter. The main findings are summarised below:

of these studies, the company introduced changes in the units as well as at Head Office. Besides, at its own level, IOC conducted in 1986 a major study to go into the existing structure of the Marketing Division followed by a similar study initiated for corporate office in the year 1987.

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Main Findings

9.35 The information received from the respondent enterprises on the various facets of organisational structure was found to be of varying degree of completeness and conceptual understanding, and has constrained the analysis presented in the chapter. The main findings are summarised below:

- i) The operational pattern of organisational structure in the respondent enterprises is a mix of "centralisation" and "decentralisation" with integrating mechanisms, having considerable in-built flexibility to accommodate functional requirements. Centralisation is, by and large, restricted to policy making at the company level, and decentralisation is based on divisional working designed to take care of production areas or different projects or various product centres. The mix of "centralisation" and "decentralisation" differs from enterprise to enterprise.
- ii) By and large, enterprises having fewer layers of positions are relatively better placed in establishing effective system of communication, coordination and control than the ones having large number of such layers. With the increase in the number of layers of positions, the chances of communication gaps are greater. This is, however, true in limited cases under study.
- iii) The system of delegation of powers, as in force in the respondent enterprises, primarily encompasses areas of expenditure approval; personnel including discipline, recruitment, promotion and training; legal affairs; materials management; commercial matters. The pattern of delegation of powers is more or less uniform in that whatever powers are delegated down the line relate to routine administrative matters rather than policy issues.
- iv) No alarming cases of mismatch of authority and responsibility adversely affecting the performance have been reported by the respondent 9 high

performing and 2 of the ⁵_^ low performing enterprises namely, BRPL and HSL. Inadequacies of authority have been taken care of by i) periodic review of delegated powers, ii) redefining the responsibilities, iii) vesting the executives with commensurate powers and iv) holding the person concerned accountable.

v) Most of the respondent enterprises are said to have a common practice of forming temporary organisational groups like task forces, product teams, project centres, working groups, quality circles etc. in various units/departments all over the organisation on a continual basis to subserve specific ends. These groups produced documents like FR/DPRs, Study Reports, long Range and Perspective Plans, Board Notes etc. The recommendations made by the Groups as accepted by the Management are implemented by the concerned department(s).

vi) The number of members in the Board of Directors of the respondent enterprises varies from 6 to 15, the size being relatively larger in multi-unit and multi-dimensional enterprises, as compared to that in the small companies.

vii) The positions of Chief Executives and full-time Functional Directors are reported to be filled by professionals. The part-time Directors appointed on the Boards are officials as well as non-officials. In a number of respondent enterprises the part-time Directors are more than the full-time Directors.

- viii) The Boards function within the periphery of Government control in the matters of decisions on key issues and ^{to that extent} have limited freedom to take policy decisions even regarding production, marketing, personnel and formulation of annual capital and operating budgets.
- ix) There is some in-built provision in the organisation structure of all the respondent enterprises (excepting BRPL) for promoting innovation at individual and group levels. In majority of the cases, this provision operates in the form of suggestion schemes for providing suitable incentives.
- x) The organisation structure of the respondent enterprises is reviewed periodically by the enterprises themselves and in a few cases with the help of management consultancy agencies. The changes are reported to be made on that basis.

10. STAFF AND SKILLS

10.1 The staff and skill attributes of excellence relate primarily to the human resource in the enterprise. Improper management of this resource may lead to poor performance, unsatisfactory industrial relations, low morale and indifferent attitude. Human Resource Development has assumed considerable significance in the public sector enterprises. Out of 146 production enterprises, 55% of the total i.e. 79, have their own training institutions. The direct employment including casual employees of all the public enterprises went up (by 50%) from 14 lakhs in 1974-75 to 21 lakhs during 1983-84. The 14 respondent enterprises account for about 24% of total employment in all the public enterprises. The average annual per capita emoluments, on the other hand, increased (by 190%) from Rs. 7400 in 1974-75 to Rs. 21675 during 1983-84. During 1983-84, about 1.5 lakhs employees (nearly 7% of total) were in executive or higher cadres. At the end of 1983-84, over 55% of top executives were in the age-group of 50 years and above, which brings out significance of succession and career planning in manpower management. The labour cost as percentage of total production cost ranged from 1% in petroleum to 49% in coal sector and the gross block per employee varied from Rs. 0.4 lakh in consumer goods industries to Rs. 8.8 lakhs in power sector. The labour

productivity in terms of value added per rupee of manpower. cost ranged from Re. 0.86 in consumer industries to Rs.22.7 in the petroleum sector; and among the 14 enterprises selected for this study, ONGC had the highest value added of Rs. 27.4 per rupee of manpower cost and HSL had the lowest corresponding figure of Rs. 1.26. Sixteen questions were formulated to obtain factual and perception based information on various aspects relating to staff and skill from different categories of persons of the respondent organisations.

Manpower Planning

10.2 Manpower planning is the first step in effective utilisation of the human resource . The information on different aspects of manpower planning was sought through the following question:

Do you prepare manpower plans? If yes, indicate the frequency of preparation and please enclose a copy of the latest plan.

10.3 Five high performing and four low performing enterprises prepare manpower plans annually. In IRE, "whenever new projects are planned for implementation, necessary provision for manpower requirement is included as part of Project

Report/Detailed Project Report". In CCL, manpower budget is prepared annually giving area-wise existing manpower and additional persons required for increased production. NTPC prepares annual manpower plans for executives and non-executives and for different departments. It also has a long term manpower plan upto 2000 A.D. The Human Resources Development Department does manpower planning in IOC, by and large, on an annual basis. The absence of a manpower plan with a longer perspective could be one of the important reasons for inadequate career and succession planning in IOC as brought out in the SWOT analysis. However, in IOC "an integrated system of manpower planning has been designed to forecast the manpower need in a longer time frame (Corporate Long Range Plan, IOC; September 1985). "The basic philosophy governing the manpower plan and development in ONGC is focussing attention on high technology areas. The manpower plans for induction of executives are prepared annually. The forecast for manpower is made once in 5 years. These are continuously monitored, re-assessed and revised whenever necessary". In RCF, "Manpower plans are prepared at the time of a project feasibility report" and a "permanent set up for operating plant is separately approved by the Board". BHEL prepares the manpower plan once a year at the time of formulation of Annual Performance Budget. The details of

supply and demand forecasts and additional requirements of manpower are worked out according to a manual developed for this purpose. In HPF, manpower assessment is said to be a continuous process of review assigned to the Industrial Engineering Department. In NTC (TN&P), "though manpower requirements are assessed periodically, there is no formal manpower plan". In IISCO, 'manpower budget' is prepared annually by IISCO Board and CMD and SAIL Board. In KIOC, SAIL and HSL, Human Resource Development plans are prepared annually. "While SAIL has been preparing manpower budgets on an yearly basis; manpower planning with a longer range perspective has not so far been done systematically" (Corporate Plan upto 2000 A.D. SAIL, May 1987). In BRPL, new plants have been coming up in phases and the manpower position is reviewed continually; the National Productivity Council is also reported to have conducted a manpower study for them.

Recruitment of Executives

10.4 With phenomenal growth of public sector enterprises in terms of size and complexity, fast changing technology and market conditions and growing realisation to professionalise management at all levels, the recruitment of right type of

personnel has assumed added importance. The analysis of methods of recruitment at managerial and supervisory levels is based on factual information furnished in reply to the following question:

What are your methods of recruitment at managerial and supervisory levels? Please give separately for last three years the number of persons recruited through (i) open competition; (ii) campus selection; (iii) deputation from government departments, (iv) deputation from public undertakings; (v) through promotions from within company; and (vi) other sources.

10.5 In high performing enterprises, the patterns of recruitment methods are - i) controlled and co-ordinated by corporate office in the case of multi-plant enterprises (NIPPC, IOC, ONGC, RCF and BHEL); ii) recruitment largely at the induction level (NIPPC, BHEL); iii) mostly through open competition in almost all enterprises except in IRE and ONGC where 45-50% is by open competition and the remaining by promotion. In the low performing enterprises also the recruitment is reported to be largely through open competition with some variations - open competition recruitment only when departmental candidates are not available (KIOC), the managerial posts are filled up on all-India basis and supervisory positions by promotion.

10.6 In IRE, recruitment for managerial and supervisory posts is done through open competition by means of advertisements and interviews. During 1983-85, 47% posts were filled up by open competition and 50% by promotion. Promotion is done in the usual way based on good work, conduct, length of service and qualifications. In CCL, recruitment of managerial personnel is done by the Corporate Office of Coal India Ltd. Policy and rules of promotion have been laid down. During 1984-85 to 1986-87 almost the entire recruitment in NTPC was done by open advertisement under the Executive Trainee Schemes. IOC is reported to have a well defined recruitment system. Recruitment for managerial posts is done at the corporate level largely through open competition. The promotion policy has been evolved after discussion with officers associations and unions and only higher level posts are filled up by promotion based on merit and seniority. In ONGC, recruitment at the lowest level is by open advertisement and for next higher levels it is by promotion. During the three year period 1983-84 to 1985-86, nearly 44% were recruited by open competition and 56% by promotion. In the promotion policy of the ONGC the requirements of the organisation and aspirations of the people have been kept in view, career growth has been given great importance and minimum three promotions are

assured to each employee. The methods of promotions are interviews and "Peer Assessment Analysis". In RCF, recruitment is done by open competition and campus selection. Promotion is subject to availability of vacancies and is based on suitability assessed through interviews. In BHEL, all recruitments are made at induction level except in certain cases at middle level. During 1984-86, 60% of positions were filled by open recruitment, 35% by deputation and 5% by campus selection. The promotion policy in BHEL is reported to be career oriented. In HPF, the recruitment is mostly done through notifications and advertisements and during the three years 1984-86 all the managerial and supervisory level vacancies were filled up through open competition. In NTC (TN&P), the recruitment for supervisory level is direct and for managerial level it is by promotion. During the three years 1985-86 to 1987-88 direct open recruitment was about 20% and promotion was 80%. There is a formalised promotion policy and seniority-cum-suitability is followed as the basis for promotion. Management trainees are recruited centrally by SAIL corporate office and posted to plants. In IISCO plant, during 1983-84 to 1985-86, 57% recruitment was through Management Trainees and 24% was through open competition, in the Salem Plant during the same period almost 80% recruitment was through Management Trainees and

open competition. For purpose of promotion and career planning, all executives of SAIL have been classified into four managerial cadres viz., Junior Managerial Cadre, Managerial Cadre, Senior Managerial Cadre and Top Managerial Cadre. Promotion policy and rules have been formulated by the Corporate Office. There is reservation of vacancies for internal promotion. Promotions upto Managerial Cadre are made by local management and for senior and top level posts by the corporate office. The criteria followed for promotion are appraisal reports, qualifications, interviews, eligibility and discipline (vigilance clearance). In KIOC, recruitment by open competition is undertaken, firstly when suitable candidates are not available departmentally and secondly, for inducting "Graduate Engineer" trainees. There is a promotion policy under which lower level posts are filled by selection on merit and others on "seniority". There is no formal method of communicating promotion prospects. According to Director (Projects), the recruitment in BRPL is on all-India basis for managerial level and by internal promotion for supervisory level. The formal promotion policy is, however, being developed. The recruitment in HSL by advertisement is not restricted to external candidates only. The promotion policy is said to be need based.

Personnel Manuals

10.8 The factual information in this area was obtained through the following question:

Do you have any personnel manual (s)/standing orders of the company? If yes, please enclose a copy. If not, please describe how personnel matters are dealt with.

10.9 Most of the high and low performing enterprises are reported to be following personnel manuals, personnel rules and standing orders. IRE is reported to have prepared standing orders for all units. In CCL, Personal Rules have been framed and standing orders are being finalised. The NTPC has a system of deciding on personnel policies and procedures in collective forum; they have not mentioned anything about the Personnel Manual; draft standing orders are said to have been developed for use on projects. IOC have prepared personnel manual and standing orders. In ONGC, regulations are reported to have been framed with the approval of the central government. RCF have a standing order manual and is reported to be updating the Personnel Manual. In BHEL, "Personnel Manual" updated in July 1985, is being followed and each unit has its own certified standing orders. HPF has standing orders applicable upto workers' level and managerial and supervisory

staff is governed by Rules framed based on model rules of the government. The NTC (TN&P) have standing orders and Personnel Rules. IISCO has a formal standing order. In SAIL, the Personnel Manual was prepared in 1982 and updated in 1985; standing orders for non-executives are being followed. KIOC is reported to have "well defined personnel policy", certified standing orders for workers and service manual for others. The BRPL is reported to be drafting Personnel Manual of their own and the IOC/IPCL manual is being followed for the time being; standing orders have been prepared as per legal requirements. HSL is reported to have the Personnel Manual and the standing orders. Most of the enterprises have not provided copies of the personnel manuals and standing orders.

Homogenisation of New Executives

10.10 A new entrant needs to be appropriately inducted and oriented to the working of the enterprise. This helps the executive to get homogenised with the people in the organisation and develop a sense of belonging, pride and commitment towards the enterprise. The factual information in this regard was sought through the following question:

How do you homogenise new executives into the organisation culture by socialising their attitudes, habits and values

for fostering co-operation, integrity and communication? Please briefly describe the relevant methods.

10.11 Almost all the enterprises are reported to have induction programmes of one kind or the other for new executives, but these emphasise more on the job training rather than on homogenising them into organisation culture. There are no specific methods followed for homogenisation. The methods vary from well designed induction training programmes to "brief on-the-job training". In IRE, induction is by interaction with employees, informal gatherings and discussions with superiors. In CCL, the homogenisation is said to be done through training and continuous inter-action. In NTPC, the homogenisation is done by introducing the new executives to the mission and working of the organisation through induction programmes, placement in concerned work team and social and cultural activities. In IOC, one year induction programme for trainees is conducted. In ONGC, well designed induction training programmes are conducted and efforts are made to effect cultural transformation through planned methods. In RCF, management trainees are recruited and exhaustive training is given for 1½ years in different disciplines and in attitudes, habits, culture etc. In BHEL,

the new entrants are put through an intensive induction training programme for one year; one senior executive is made incharge of 4/5 trainees for their socialisation into the organisation. In HPF, new executives undergo systematic rotational training in different departments and a nine-month on-the-job training. In NTC (TN&P), homogenisation is said to be done through brief on-the-job training. In IISCO, new executives undergo orientation and exhaustive training programme and spend some time in the department in which they would be absorbed. In SAIL and in its plants, new executives undergo training including on-the-job training. In KIOC, induction is done through "Planned Training Module for Graduate Engineer Trainees" involving "Class room training" and "work experience" by attachment to different departments. In BRPL, homogenisation is done through Induction Training Programme, started in 1985, and other training programmes. HSL is said to have a "well defined process of induction".

Performance Appraisal

10.12 The performance appraisal system is of crucial importance to: (i) gauge the effectiveness of the executives at different levels; (ii) help in improving the performance;

(iii) reward; (iv) effect appropriate promotions and transfers; and (v) design training and development programmes. The analysis of the performance appraisal system of the executives is based on the factual information supplied by the enterprises in their replies to the following question:

What are the methods adopted for appraisal of performance of the executives? Please describe briefly.

10.13 All high and low performing enterprises have the practice of Annual Appraisal Reports. In ONGC, it is supported by the systems of self-appraisal and of fixing targets for executives in production departments where quantifiable. Apart from self-appraisal, HPF have the system of review discussion with the executives. The performance appraisal system in NTPC consists of stipulation of targets or work performance norms for each executive, periodical evaluation and review of performance on this basis, annual appraisal of executive's capabilities and potentials and follow-up and counselling. IOC provide for counselling and are planning to review their system of performance appraisal to bring it in line with organisational reality. Processes like annual goal setting, maintenance of significant events diary and self-development diaries are under

consideration. A data based regular subordinate counselling is proposed to be part of this appraisal system. In BHEL, self-appraisal formats for senior executives and performance appraisal formats for middle and junior level executives are used; workshops are conducted to generate awareness about feedback and counselling. The targets are also fixed for executives in a measurable and well defined manner in production departments in CCL, RCF, NTC - IN&P (with difficulties). NTPC have also the system of performance indices. In IRE, it is reported to be difficult to fix quantifiable targets for each executive.

10.14 The low performing enterprises - SAIL, IISCO, KIOC and BRPL have supplemented the Annual Appraisal Reports with the system of performance indices rating scores. SAIL(including IISCO) also hold review discussion, provide counselling and fix quantifiable targets in production department for executives. KIOC provide counselling and also fix quantifiable target in production department for each executive. BRPL fix performance target in production department with some difficulties and HSL feel that the system of fixing quantifiable targets for each executive is difficult to evolve.

Career Planning

10.15 Factual information on career planning was obtained through the following question:

Do you have career plan? If yes, how is it operated?
Please enclose a copy.

10.16 Analysis of the replies indicates that career planning on individual basis has not been taken up in an organised and formal manner in most of the respondent enterprises-among four high performing enterprises viz., IRE, CCL, RCF, NTC (TN&P) and four low performing ones KIOC, SAIL (including IISCO), and HSL. According to SAIL, it is not possible to formulate career plans for individual officers, and KIOC's thinking is that it is too early for them to evolve career planning system. Career development is based on vacancies in BRPL and it is operated on adhoc basis in HSL. However, in the ONGC, HPF and IOC, career planning is said to have been undertaken in a regular way. In NTPC, the scheme of career planning for executives successively consists of rotation in two to three related areas of work, specialisation to consolidate proficiency and experience gained, and general management.

10.17 In ONGC, following steps are said to have been taken for career planning:

- i) Creative talents of executives are given due recognition by way of incentives and publicity.
- ii) Creative working groups/forums have been constituted for discussing work related problems and solutions.
- iii) Information is collected on the strengths and weaknesses of each individual executive and on respective needs for self-development.
- iv) Executives are encouraged to become members of professional institutions/societies.
- v) Computerised personnel information system has been introduced to maintain complete biodata of all executives.
- vi) A continuous process of training it's employees to improve their professional competence right from the stage of induction onwards has been evolved.

In BHEL, the potential and performance of individuals are matched with organisation needs through the performance appraisal system and career path for individuals are marked on this basis.

10.18. In HPF, talent is discovered and nursed so that vantage positions are filled with the best man available. Management trainees are recruited and groomed to various executive

positions. Officers are encouraged to take up professional courses for personal growth and updating their knowledge. Quite often they are given challenging tasks to prove their worth. Through the self-appraisal scheme, the executive becomes conscious of achieving the target for his survival. To combat technical obsolescence, officers are sponsored to trade fairs and overseas training. The system of career development is based on the need for achievement, power and affiliation. A high overall level of motivation is considered by HPF management as success in managerial efforts. In IOC, "the plan envisages elements like formulation of career plans for different professional areas and identifying the strengths and weaknesses of the individuals and to the extent these are identified, provide necessary inputs. The inputs are in the areas of training & development, job rotation and transfer." (Corporate Long Range Plan, 1985-90, IOC, p.158).

Incentives, Rewards and Recognition System

10.19 The need for improving productivity and performance in public enterprises has been widely recognised. For this, motivation through incentives, rewards and recognition plays an important role. In this connection, the respondents were requested to reply the following question:

Do you have incentives, reward and recognition system in your organisation? If yes, how are these operated? What are your suggestions for improvement?

10.20 The practices of incentives, rewards and recognition vary widely both among the high and low performing enterprises. In a large number of cases, the suggestion and award system has been described along these practices. Among the high performing enterprises, in IRE incentive scheme in the Rare Earths Division only; and rewards scheme in the Minerals Division, are functioning. A new scheme has also been introduced for giving advance increments for acquiring additional qualifications. In CCL, there is no regular scheme of incentives and awards except that incentives are provided through promotion. In NTPC, the incentive schemes in operation are - (i) for completing projects in time, ii) for maximisation of capacity utilisation and cost reduction, iii) for best-plant performance, iv) for safety awareness, and v) for maintenance of good and harmonious industrial relations in projects. In IOC, a productivity linked incentive bonus scheme is in operation involving unit-wise monitoring against targets of various performance indicators such as refinery throughput, sales, fuel and loss in

refineries, operational losses, yield pattern, overtime etc .. Goals are also set for each unit incharge and performance is judged against the same. In the Western region particularly, there has been a tradition of recognising performance in areas falling outside the scope of the job. Promotions in the organisation are primarily based on merit-cum-seniority. The ONGC have financial incentive based on productivity and performance, and non-financial rewards, awards and recognition schemes. Due regard is given to working conditions and safety of employees. The schemes are said to be working well. In RCF, a multi-factor incentive scheme linked with performance is in operation in the production, bagging plant and marketing departments. However, the Chief Executive Officer feels that the drawback in the Group Incentive Scheme is that the non-performer also gets incentive payment. The Thal Unit of RCF has various types of incentives schemes - productivity linked incentive scheme, suggestion scheme (under which rewards are given) and safety schemes. Due recognition is given for performance with respect to quality. In BHEL, the schemes relate to : (i) individual/group incentives at unit level for shop floor employees and at plant level for all

employees, and (ii) certificates, appreciation letters, oral praises for meritorious service and performance. In addition to profit-sharing bonus scheme, a system of incentive bonus has also been introduced in the HPF. Non-monetary incentives are also provided. In addition, a suggestion scheme is in operation. Keeping in view varying backgrounds of the acquired mills, NIC(TN&P) have framed various systems of incentives, rewards and recognition. According to the CMD, promotion is the only incentive provided and productivity linked bonus needs to be introduced. Productivity linked efficiency based incentives are operating in certain departments of almost all the mills viz., Swadeshi Mills, Pioneer Spinners, Soma-sundaram Mills, Balaramavarma Textile Mills, Pankaja Mills; and sales incentives in Regional Marketing Division C. Murugan Mills, Krishnaveni Mills, N.T.C. Marketing Division and Om P. Mills. There is no cash incentive scheme in Bharathi Mills (but good work is recognised and publicised). Awards are given for attendance in Shri Ranga Vilas Mills, and for improving quality in Balaramavarma Textile Mills, Pankaja Mills, Shri Ranga Vilas Mills, C. Murugan Mills, Sri Sarada Mills and Om P. Mills. Cash awards are given for profitable suggestions in some

departments of NTC corporate office and in some constituent mills.

10.21 Among the low performing enterprises, in SAIL (including IISCO), incentive, reward and recognition system based on production and performance is in operation in the plants in addition to a suggestion and award scheme. The labour union of this enterprise, however, feels that the schemes are outdated, traditional and irrelevant. The Corporate Planning Department of SAIL realises that these can be further improved. The Gua Ore Mines of IISCO suggest that individual merit reward should also be introduced. In KIOC, there are merit award and suggestion schemes. Cash awards of Rs. 1000/- are paid to executives and of Rs. 500/- to non-executives. Cash awards upto 10% of year's savings from suggestions and letters of appreciation are given to non-managerial employees. In BRPL, no incentive, reward or recognition system seems to be in operation in the Refinery Projects and Finance Division. In the Petrochemicals Department, production incentive based on performance is given at corporate level and by promotion at individual level. A draft of the incentive and suggestion scheme is, however, said to have been prepared for the enterprise as a whole. In HSL,

incentive scheme is said to be existing in Commercial, Industrial Engineering and Cost Reduction, Ship Repairs and Off-shore Platform Departments. The scheme of incentive-cum-rewards was tried in the Production Department, but it had to be withdrawn because it did not yield good results. The Departmental Heads themselves felt that the scheme was neither effective nor operated sincerely (commercial department); it was geared to shop's capacity and not to corporate mission (Industrial Engineering and Cost Reduction Department); and was not working well and required improvement (Ship Repairs Department and Off-shore Platform Deptt.). There is no incentive scheme in Outfit, Personnel, Commercial and Technical Departments. The Staff Association of HSL is of the view that ad-hoc incentive scheme was operated for sometime, but was discontinued later, and suggest that such a scheme should be properly drawn up and implemented. The Chief Manager (Commercial) proposes that more emphasis should be given to incentives, norms should be established and productivity linked incentive scheme should be designed. The cash awards scheme is operating for acquiring higher qualifications and giving beneficial suggestions. The Manager, Training Department feels that the rewards scheme worked

initially but later people lost interest in it.

Job Rotation and Enrichment

10.22 Research findings show that job enlargement and rotation contribute to improving morale and performance; making jobs more challenging and affording a sense of accomplishment leading to greater job satisfaction; and promoting fresh ideas and dynamism, breaking rigidity in attitudes and behaviours and encouraging co-operation. To elicit information about these aspects the following question was asked:

Do you have systems of job rotation and job enrichment? If yes, please describe how these are operated and with what results.

10.23 Among high performing enterprises, in IRE, job enrichment is done through training and there is no job rotation. In CCL, job rotation is said to be achieved by transferring executives from one place to another. In NTPC, there is a system of rotation as a part of the scheme of career planning but there is no formal system of job enrichment. In IOC, job rotation is a part of career development plans. In ONGC, job enrichment is done through participative management, effective training policy and productivity linked incentives and job rotation

for widening experience and opening channels of growth forms a part of career planning scheme with a well defined transfer policy. Both job rotation and job enrichment are said to exist to some extent in RCF. In BHEL, "keeping in view the organisational plan individual career planning is done. It has resulted in availability of trained manpower for various jobs from within the organisation". In HPF, job rotation is avoided to preserve the consistency in quality; and job enlargement plan is implemented by: (i) allowing a higher grade employee to take the responsibility for the work done by the employee in a lower cadre and train him or guide him appropriately, and (ii) making the job performed more meaningful and satisfying to the employee through integration of different job elements. In NTC (TN&P), job rotation is followed only to a limited extent.

10.24 Among the low performing enterprises, in SAIL, (including IISCO), job rotation is done for different functional areas and for high performance within the Department. In KIOC, the employees are assigned different jobs according to suitability at periodical intervals within their areas of work, e.g. from one production unit to another and similarly from maintenance jobs to other areas. This has

enriched the jobs of the employees and has also benefited the enterprise in filling up vacancies. In HSL, formally defined systems are not in vogue. In BRPL, the method of job rotation is followed in projects, but job enrichment is yet to be introduced.

Innovations

10.25 The improvements in methods of work and product are useful in many ways. The perception based information on their related aspects was sought through the following question:

How do you encourage at individual/group levels, innovations for improved methods of work and product development? Do you provide some financial support for this purpose? What is the extent of failure tolerated by the organisation for development and implementation of new ideas? Please illustrate with important innovation(s) over the last three years. What are your suggestions for improvement?

10.26 Among the high performing enterprises, in IRE, employees are encouraged to give suggestions through "suggestion boxes" and awards for innovations and improved methods are given in the Minerals Division. CCL has not given reply to this question. In NTPC, a comprehensive suggestion scheme has been

introduced. As a part of this scheme, panel discussions are organised for encouraging innovations; Quality Circles are operating in some of the projects; an Action Plan has been formulated to implement Value Engineering ideas and a formal R & D set up has been created. In IOC, there is a suggestion scheme and rewards are given. These have resulted in several innovative ideas ^{from} staff. The R & D centres deal with development of new ideas. Task forces are appointed to solve specific problems. Management Committee Meetings decide course of action in major problem areas. Quality Circles are in experimental stage. In ONGC, individual and group level innovations are encouraged through 'Suggestion Scheme' and financial rewards. The Officers Association representatives feel that all facilities are provided for innovations and product development. They have suggested that a special fund should be created for this purpose. The Research Institutes of ONGC, however, feel that the existing schemes need to be improved and people are required to be trained and made to believe that the innovations will be useful to the organisation. In RCF, innovations and improved methods of work are encouraged through suggestion scheme supported by awards and rewards. In BHEL, suggestion schemes are used to

encourage employees to come out with innovative ideas. During 1985-86, over 16,000 suggestions were received. Quality Circles play a vital role in self-actualisation. Safety consciousness has minimised loss due to unsafe practices. In HPF, cash awards and merit certificates are given for innovative ideas. In NTC (TN&P), different practices are followed in different units of the enterprise to promote innovations. In some units, suggestions schemes are operated, financial support is provided and awards and prizes are given. In certain units, encouragement is provided to small groups to tackle major problems; for example, in the Bharati Mills, reducing one motor resulted in a saving of rupees one lakh annually. In some other units, innovations are encouraged by group discussions and seminars. However, in certain other units (e.g. B. Textile Mills, Pankaja Mills), there is no scheme and formal organisation for innovations.

10.27 Among the low performing enterprises, in IISCO no financial assistance is provided, only material assistance is given and if proposal is accepted all expenditure for implementation is undertaken. The Labour Union leaders of IISCO, however, feel that these schemes are not enough and

most of the workers do not fully know about them. In SAIL (including IISCO), innovations are encouraged through Employees Suggestion Scheme, cash awards, rewards, merit certificates and quality circles. In KIOC, improvements in productivity have been achieved through rewards both to individuals and groups under suggestion scheme and through implementation of the accepted suggestions. In BRPL, a "Draft Suggestion Scheme is said to have been prepared and the process of providing encouragement for innovations is in the formative stage." However, in the Petro-Chemicals Department importance of improvements is communicated in Deptt./ Shop floor level meetings and some improved methods have been evolved on group basis resulting into two new products. A suggestion has been made that a full-fledged Training Centre and a R & D Centre should be established in the Petro-Chemicals Department for exposure to latest changing technologies at international level. In HSL, innovative ideas are encouraged through suggestion scheme and by giving cash rewards and certificates. General perception is that there is no provision of financial support for innovation but according to G.M. (Design and Material) and G.M. (Production) it is provided. The DGM (Ship Repairs) has suggested that the employees should be encouraged more vigorously and the

amount of cash award should be made more attractive.

Redressal of Staff Grievances

10.28 Grievances of one kind or other do arise among staff members as a group or as individuals on account of working relationships and conditions. The perception based information on different aspects of redressal of grievances was asked through the following question:

What is the mechanism of redressing the staff grievances? How has it worked over the last three years? What are your suggestions for improvement?

10.29 The mechanism and procedure for redressal of grievances among the enterprises varies. On the whole, the mechanism is reported to be working well in IRE, IOC (CMD and GGM - Finance), HPF (CMD), RCF (Chief Executive Officer) and NTC (TN&P) - CMD. In CCL, no formal grievances machinery and procedure is reported to exist for executives. In IRE, grievance procedure has been drawn up and a Grievance Committee has been set up. In CCL, the redressal of grievances is done through meetings with individuals and there is no procedure for executives. In NTPC, a time bound three stage procedure is operating. In I.O.C., a well laid out procedure is operating through

bipartite forums. In CNGC, a four stage and time bound grievance handling procedure has been evolved and grievances are treated on top priority in orderly way, but in the Indian Petroleum Institute open door system is followed. RCF, have a staff grievance redressal procedure and employee counselling. BHEL are reported to have a well laid out formal scheme for redressal of grievances for workmen, officers and staff. The grievances are also brought out at informal communication forums. In HPF, the procedure is said to be simple. In the NTC (TN&P), the redressal of grievances is done in different ways in different units through grievances cell, counselling, unions and direct representation, discussion meetings and grievances committee.

10.30 The mechanism suffers from several deficiencies. It is not working well for non-executives in IISCO according to the MD, and as per the Labour Union representative it is not up-to-date and is irrelevant and one-sided. In the Ujjain unit, the staff grievances machinery is reported to have worked well for past 3 years. In the HSL, according to one perception, it is said to be working well (GM Production, Chief Manager Personnel)

whereas according to the others-the mechanism exists on paper only and staff as such have lost faith in it (Chief Manager, Commercial), the redressal of grievances "is a long drawn affair" (Industrial Engineering & Cost Reduction Deptt.), procedure is "elaborately defined" and due to lack of co-ordination the redressal gets delayed (Staff Association).

10.31 Whereas some respondents have mentioned that the grievances redressal procedures are working well in their organisations, only a few, mostly low performing enterprises, have offered suggestions for improvement on the following lines:

- (i) The grievances procedure should be time bound, quick and participative and solutions, not clarifications, should be found through two-way communication system (IISCO, HSL, BRPL).
- (ii) The interference of unions and associations should be reduced (HSL).
- (iii) The formulated grievances procedures need to be implemented more effectively. (IISCO, HSL, KIOC, BRPL, CCL).
- (iv) Forums should be created where Officers Association can jointly deliberate with management (CCL).
- (v) The "Open door" system of handling grievances should be replaced by a formal system (CCL).

Training and Development

10.32 For successful operation of an enterprise, training and development programmes for the executives on a regular and continuing basis are essential. These are required to be planned and implemented on the basis of properly identified and duly assessed nature and content of the need both short term and long term. The description of mechanism of assessing the training needs in the public enterprises is based on replies to the following question:

Do you periodically assess management and technical training needs of the organisation? If yes, please describe how it was done last?

10.33 The training needs are generally assessed annually through Departmental Heads/ Training Department along with performance appraisal. The methods vary widely from those simply based on individual requirements to those taking into account also the corporate plan, needs survey data and updating of executives on new development. Among the high performing enterprises, in IRE the assessment of training needs which has been started only recently, is done by Heads of Departments and Unit Heads. In CCL, needs are based on information collected through a format of the

Training Department. In the NTPC, the managerial, techno-managerial and technical training needs of executives, both at the individual and group levels, are assessed through different methods: (i) interviews with Heads of the Departments; (ii) training requirements arising out of corporate plan; (iii) training requirements to update executives on new developments and new trends; and (iv) survey of training needs. Individual level training needs are identified at the time of annual appraisal report and as a part of planned job progression. In IOC, training needs are identified through annual performance appraisal and counselling system and discussions. In ONGC, training needs are periodically assessed and are identified by each executive and by functional head/business group. In RCF, needs are on the basis of individual requirements. In BHEL, the technical and managerial training needs are assessed once a year along with the annual performance appraisal in respect of executives of the corporate cadre. This was introduced only two years back and is also proposed to be gradually extended to executives below corporate cadre. In HPF, identification of needs is based on performance appraisal and discussions. In the NTC (TN&P), the assessment of training needs is reported to be done, but no details of how it is done have been provided in the answer.

10.34 Among the low performing enterprises, in SAIL and IISCO training needs are assessed annually based on requirements identified in performance appraisal and a training plan—"Training Approach Plan" has been recently prepared identifying priority areas. Training Advisory Committees have been set up in each unit. In KIOC, training needs are assessed every year and executives are sent out for training, and the company also have a small in-house training department. The training needs in HSL are assessed by calling proposals from Divisional Heads. In BRPL, the training department assesses the needs.

Management Training

10.35 To ascertain information on the number of executives trained in the management improvement programmes, the following question was asked:

"What was the number of executives and their percentage to total, trained in management development programmes organised separately by the company and outside agencies over the/ three years?
last

10.36 Among the high performing enterprises, in CCL, 60% executives have been trained. In NTPC, during 1984-85 to 1986-87, about 3700 executives (forming about 31% of the

total) have been trained of which 60% were through in-house programmes and 40% by external agencies. IOC have reported: "A very small percentage of employees are trained outside. In the year 1986, 785 programmes have been organised by us. We have trained 12,000 employees". In ONGC, on an average, 4500 executives have been trained annually during 1983-84 to 1985-86, forming about 32 to 35% of the total number. Most of the executives have been trained through in-house programmes. The RCF have mentioned: "It spends quite a significant sum on training both within and outside the company including even foreign training. Almost every-body is trained atleast once in three years". No data have, however, been given in the reply. BHEL are reported to have given training, on an average, to 25000 employees annually through Training and Development programmes during 1983-84 to 1985-86. The number of executives trained only through Management Development Programmes has not been mentioned separately. About 95% of the employees trained have been through in-house programmes. In IRE, the information is said to be not readily available. In HPF, on an average, 160 officers have been trained annually during 1983-84 to 1985-86, forming about 50 to 75% of total number of officers. In NTC(TN&P), the

number of supervisors and managerial personnel trained has varied widely from year to year - being 410 in 1985-86, 222 in 1986-87 and 122 in 1987-88. The total number of supervisors and managerial staff has not been mentioned.

10.37 Among the low performing enterprises, in IISCO the average number of executives trained in management development during the three years 1983-84 to 1985-86 is reported to be about 560 (30% of total strength), out of which about 20% have been trained through their own programmes. The SWOT analysis for the company undertaken in Feb. 1984 has, however, mentioned that "Training and Development facilities are not adequate". In different SAIL plants and units the number of executives trained has been 54% during 1984-85, 69% during 1985-86 and 41% during 1986-87. Over 90% of the training provided has been through in-company programmes. In KIOC, the percentage of managerial and supervisory personnel trained in Management Development Programmes has been 11% in 1983, 7% in 1984 and 1985. In BRPL, according to Director (Projects), on an average, 280 officers have been imparted training annually during the three years 1983-84 to 1985-86, and it has also been

reported: "All senior managers right from senior engineers have received in-house/external training". According to Director (Production), over 42% have been trained ^{on} an average, annually by outside agencies and no management development programmes were organised by the company during these three years. In HSL, on an average, 640 executives were trained mostly through in-company programmes annually during the 3 years 1984-85 to 1986-87, which formed about 53% of the total number of executives.

Expenditure on Training

10.38 The "Report of the Committee to Review Policy for Public Enterprises", 1984 headed by Dr. Arjun Sen Gupta has mentioned: "One of the most vital, but neglected, areas in public enterprises is the training or retraining of workers and supervisors, managerial development at induction and at middle levels as well as succession planning for top posts..... personnel policy of a company must provide for management development training input to be provided for a predetermined number of days or weeks training on an average to each executive". Realising the importance of training and R & D, the Third Convention of Public Enterprises held in January 1987 has recommended that "At least 2% of the

turnover of the public enterprises should be set apart for R & D and management training". To assess the extent of emphasis on training and HRD given by each enterprise, information was sought through the following question:

What is the amount spent and its percentage to total expenditure budget during the least three years, separately on management training and human resources development?

10.39 "Approximately 7 crores per annum" are spent by IOC on training and HRD. It forms a very small percentage of the production expenses/about Rs. 10,000 crores during 1983-84. In CCL, the expenditure on management training and HRD has been reported to be about .01% to .02% of total expenditure. ONGC have given the expenditure on training as percentage of plan expenditure (and not of total expenditure budget) as ranging from 18 to 21%. The HPF have spent Rs.1 to 1.25 lakhs annually on management training and HRD, which is about 0.001% of their total expenditure. The RCF have spent on training Rs. 30 lakhs in 1984, Rs. 39 lakhs in 1985 and Rs. 18 lakhs in 1986. This works out to about 0.01% of expenses during 1983-84. In NTC (TN&P), the expenditure on Management training and HRD was about 0.004% of total expenditure budget. NTPC have

stated that Rs. 18 lakhs in 1984-85, Rs. 28 lakhs in 1985-86 and Rs. 41 lakhs in 1986-87 were provided for management development activities and they think that it is not relevant in their case to relate it ^{to} total expenditure budget. The amount provided formed about 0.3 to 0.5 percent of their total expenses. The amount spent on training and development in BHEL has been stated to be around Rs. 100 lakh per year; this when related to their total expenses works out to about 0.09%. The IRE have not furnished the required information.

10.40 The expenditure of about Rs. 10 lakhs on training forms about 0.003% of the total expenditure in the IISCO. KIOC spends Rs. 1 to 1.5 lakhs annually on training which forms about 0.02% of total expenses. SAIL have mentioned that it is not possible to give details of expenditure asked for. HSL have stated that the fee paid for executives participation in training programme was Rs. 42 lakhs in 1984-85, Rs. 38 lakhs in 1985-86 and Rs. 26 lakhs in 1986-87, which has to be viewed against their total expenses of Rs. 43 crores in 1983-84. The amount spent on training of officers and staff during 1983-84 have been stated by BRPL to be Rs. 13 lakhs which works out to about 0.1% of the total expenses.

10.41 However, the two points ^{that} clearly emerge out of the analysis of the replies are that the expenditure on training and HRD is meagre as compared to total expenditure on operations. Information about training programmes and expenditure is not readily available. Critical analysis of the performance of management development programmes needs to be taken separately and specifically.

Improving Productivity

10.42 The perception based information on methods for improving productivity and performance was sought from respondents through the following question:

What methods do you adopt for improving personnel productivity and performance? Please describe the important methods and indicate how these are operated.
What are your suggestions for improving productivity and performance?

10.43 The methods for improving productivity and performance said to have been adopted by high performing enterprises are:

- (i) Motivation schemes covering welfare measures; cash incentives, appreciation, recognition, public praise and awards say, for achieving targets, excellent performance, timely completion of activities; effective grievances handling,

promotion in recognition of performance, proper work environment and participative management (IRE, ONGC, RCF, NTC (TN&P), HPF, NTPC, BHEL, IISCO, SAIL, HSL, BRPL).

- (ii) Incentive schemes relating to productivity linked bonus based on key result areas (IOC, RCF, NTPC, HSL, BRPL).
- (iii) Planned, detailed and regular training and development programmes for technical and behavioural areas, for new executives, for functional officers, for updating and refreshing knowledge and creating awareness about improvements in technology for workers leaders; feed back and monitoring of training programmes (IOC, ONGC, HPF, RCF, NTC (TN&P), NTPC, SAIL, BRPL).
- (iv) Properly organised and operated performance appraisal, counselling and advice system with feed back monitoring and action arrangements (IOC, HPF, RCF, NTC (TN&P), NTPC, KIOC, SAIL, HSL, BRPL).
- (v) Career planning and ensuring career growth (ONGC, SAIL, BRPL).

- (vi) Ensuring job satisfaction; using job rotation and job enrichment methods (ONGC, RCF, KIOC, BRPL).
- (vii) Cash awards and recognition for useful suggestions and innovations(ONGC, BHEL).
- (viii) Specific productivity directed schemes such as quality circles, self certification quality checks, inter-department quality quiz programmes, sponsoring employees for national awards(BHEL, IISCO).
- (ix) Healthy human relations and giving due importance to individuals (ONGC, RCF, NTC (TN&P), HSL, BRPL).
- (x) Development and rehabilitation of surplus manpower by training and their proper deployment (CCL, IISCO).
- (xi) Improving systems and methods (NTC-TN&P).

10.44 ONGC (high performing enterprise) has mentioned that the preparation of perspective plans can be an indirect motivating factor to the executives because through these plans they can foresee their prospects and opportunities for growth and career development. The respondents have laid stress on- simplification of rules (HPF and NTC-TN&P); removal

of procedural bottlenecks and modernisation of communication system (ONGC); identification of key result areas and critical ingredients (IOC); setting yearly and periodical targets for job performance at group and individual levels and reviewing of performance against targets (IOC, ONGC, RCF, NTC-TN&P, and NTPC). The delegation of powers in the right manner, decentralisation of decision making in a practical way, assignment of responsibilities properly and participative management, are methods perceived by some (HPF and NTC-TN&P) for improving productivity and performance. One of the executives in NTC (TN&P) has mentioned creation of sense of belonging also in this respect.

10.45 The suggestions for improving productivity and performance reported by low performing enterprises relate to: proper manpower assessment and optimum/rational manpower deployment and control, rehabilitation of surplus manpower, putting in hard work by employees, creating personal touch and mutual regard, enforcing wage agreements and voluntary retirement schemes (IISCO, KIOC, SAIL, HSL); making fair and objective promotion policy, motivating the staff by providing cash rewards, incentives, overtime, promotion and recognition and by improving quality of work life and work improvement,

purposeful and meaningful atmosphere (SAIL, KIOC, HSL); reinforcement of training and development programmes and preparation of manuals (IISCO, SAIL); sound performance appraisal, counselling and corrective system (KIOC); job rotation and job enrichment (KIOC); improvement of grievances machinery for quicker redressal (SAIL); improvement of welfare measures and machinery, career planning; building healthy industrial relations. The other areas on which the respondents have laid emphasis are clarity of organisation and individual's goals, forward planning, streamlining of procedures, target oriented group discussions, informal communications (SAIL), weekly meetings and appraisal of work centres, enforcement of strict discipline, setting group targets, setting stiff targets, establishing effective co-ordination (HSL), matrix type of organisation like Quality circles, generating accountability and responsibility, enforcing closer supervision, participative management and involvement of the people, practising of real "Leadership" and not "supervisorship" strengthening of the spirit of oneness and sense of belonging (HSL), having committed people, creating purposeful and missionful atmosphere and development of team spirit. In addition, the low performing enterprises have

laid emphasis on ensuring proper plant conditions, debottlenecking, improved maintenance, good and workable product designs, tieing up of availability of materials and ensuring input supplies and linking up production and productivity with norms (IISCO, HSL).

10.46 Main Findings

- (i) Most of the enterprises prepare manpower assessments and budgets on an annual basis. Such short-term plans provide quantitative estimates of manpower requirements related to production levels. With this process the enterprises may not be able to visualise their position quite ahead in future in terms of both the quantitative and qualitative aspects of its employees and to design updated strategies and programmes for more effective utilisation of manpower.
- (ii) Drawbacks in recruitment and promotion policy are reported to be a major cause of demoralisation, low morale, and indifference, lack of creativity and weak spirit of oneness. For this purpose, the existing recruitment and promotion policies and procedures need to be updated and revamped to build up required type of personnel and to keep pace with the ever expanding dimensions and developmental role of the public enterprises.
- (iii) Almost all the enterprises have induction programmes of one kind or the other for new executives but these emphasise more on training them for the job rather than on homogenising them with organisation culture. Specific and tailor-made programmes (methods and approaches) specific to

enterprise need are to be evolved (in each individual enterprise situation) for developing employee's commitment to cultural attributes of the organisation, creating awareness of various planning, control and human systems, procedures and practices aligned to the cultural attributes of the organisation as a whole and emphasising the human concern for the person.

(iv) Sound system of executive appraisal based on tangible, measurable and quantifiable elements of accomplishments for jobs need to be developed to strengthen motivation, develop the feeling of pride and confidence in the enterprise and to make the training and development programmes more realistic and purposeful for meeting organisation objectives.

(v) Career planning has not been taken up in an organised manner. It needs to be improved considerably as a system to optimise individual growth with the growth of the organisation.

(vi) The methods of motivation followed in the selected enterprises in terms of incentives, awards and rewards and suggestion schemes need to be improved.

(vii) An integrated and realistic approach need to be developed in planning and implementing, job enrichment, job enlargement and job rotation for motivating the staff and making fuller use of their skills and capacities.

(viii) Most of the low performing enterprises have indicated that innovation schemes are in existence in their organisations, but it appears that there are deficiencies in their implementation e.g. most of the people do not know

about these schemes and their importance. The high performing enterprises appear to have effective implementation of these schemes. The innovation and suggestion schemes need to be strengthened on lines required for achieving excellence.

(x) It would be helpful to evolve objectives oriented comprehensive plans and develop formal organisational and monitoring mechanism in each enterprise to encourage cost savings, productivity improvement, fuller and efficient use of inputs including raw materials, minimising plant and equipment breakdowns, and energy conservation.

(xi) In almost all the public enterprises, a formal grievance redressal machinery and procedure of one kind or the other is said to be working for non-executives but it suffers from several deficiencies. It needs to be improved e.g. in terms of quicker disposal, procedures simplification.

(xii) The methods and procedures followed for assessment of training needs are not, by and large, scientific and require to be considerably improved. The training programmes need to be made more information based and more directly relevant and related to the current and perspective needs of organisation and individual.

(xiii) The expenditure on training and Human Resource Development is very low as a proportion of total expenditure on operations. The information on training programmes and expenditure needs to be improved.

11. SYSTEMS AND PROCEDURES

11.1 All organisations require a certain level of order and consistency in the discharge of different inter-related management functions and tasks. They establish various formal and informal procedures for this purpose and adopt methods of work with due regard to environmental conditions and well tried management tools and techniques. These are blended together as systems. Systems once introduced are difficult to change. Dynamic environment, on the other hand, necessitates periodic review and modification of systems.

Review of Systems

11.2 To understand the review mechanism of Systems and Procedures, the selected enterprises were requested to give information on the following question:

Do you evaluate and review the various management systems? If yes, when was it done last and by whom- internally or through outside agency? Please give details.

11.3 The analysis of the replies shows that six of the nine selected high performing enterprises and two of the five low performing ones are periodically reviewing, evaluating and modifying their systems and procedures to bring these in tune with the changing environment and dynamic needs of their organisations. Five high performing

enterprises, namely, IOC, ONGC, BHEL, RCF, and HPF and two low performing ones, viz. SAIL and IISCO, have reported that they review evaluate and update their systems and procedures regularly. The periodicity of these reviews differs from organisation to organisation. IOC and RCF respectively have mentioned that, they review their systems from "time to time" and "periodically". ONGC review the systems "every 3 to 5 years". BHEL have stated that the last review was done in December, 1986. SAIL and IISCO have reported that they regularly review their systems and procedures. NTC (TN and P) have mentioned that the evaluation and review of various management systems were done "three years before" and, as a consequence, computer was installed. IRE and CCL have reported that they do not review their systems and procedures and no specific reasons have been given.

Only a few of the selected enterprises involve external agencies in evaluation and review of their systems and procedures. NTPC, in their note on SWOT analysis, have indicated that the systems for different disciplines in their company are developed in-house, ^{and} are regularly reviewed and updated to meet the changing needs of the organisation. IOC and ONGC and SAIL and IISCO have

mentioned that the reviews are done both internally as well as with the help of external agencies. HPF and RCF carry out the review internally. BHEL have not mentioned the reviewing agency. In BRPL, the systems are in the process of development. In KIOC, the reviews and evaluations are done internally. HSL do not have any rigid time table for review of systems and procedures.

Discontinuation of systems

11.4 To gather evidence on discontinuation of systems as a consequence of periodic review(s), the following question was asked:

Was any system(s) discontinued during the last three years. Please describe briefly with reasons for their discontinuance.

11.5 Three high performing enterprises (IOC, RCF and NTC (TN & P) and three low performing ones (SAIL, IISCO and HSL) have reported the discontinuance of some system(s). Six high performing enterprises (IRE, CCL, ONGC, BHEL, NTPC and HPF) and two low performing ones (BRPL and KIOC) have not discontinued any system during the period of enquiry. ONGC and BHEL have added that there was no discontinuance of systems but constant upgradation. RCF have not specified the systems discarded. IOC have reported that the system of

counselling of performance appraisals of the employees was discontinued but has subsequently been re-introduced. NTC (TN & P) discontinued the manual system of accounting. SAIL discontinued the practice of overtime paid to non-executive staff since it did not serve any useful purpose. IIISCO discontinued then existing Performance Appraisal and Promotion Systems of executives as adequate weightage to performance on job was not given therein. The newly introduced system relies on MBO and performance is appraised against set tasks/targets. HSL has discontinued Job Card and Materials Issue Card Systems mainly due to complacency and lack of check points.

Intensity of Paperwork

11.6 To ascertain the extent of emphasis of management on paper work, the selected enterprises were requested to respond to the following question:

Is there any directive or convention to restrict the paper work or size of notes and reports for seeking attention of, and decisions from, senior executives?
If yes, please illustrate.

11.7 Seven high performing and three low performing undertakings lay varying degrees of emphasis on the reduction of paper work. CCL, ONGC, and NTC (TN & P) have reported

that they have issued directives to reduce paper work and IRE, IOC, BHEL and RCF have mentioned that they have conventions/practices/emphasis aiming at reduction of paper work. According to CCL, the directives for reducing paper work come from the Ministry. ONGC have mentioned that there are detailed directives/practices to minimise paper work, restrict the size of notes/reports, messages etc. In NTC (TN & P) directive is to take the papers personally and take orders, if the matter is of urgent nature. IRE has the convention that, in most of the cases, the senior executives give decision and indicate the line of action on latter/communication itself and, in other cases, they discuss the line of action. In IOC, conventionally notes and reports seeking attention of, and decisions from, senior executives are normally brief, self-contained and supported by detailed analysis of junior executives. BHEL have mentioned that "as a culture itself, there is a general awareness to optimise paper work". RCF have mentioned that the emphasis over the years has been more on discussions and meetings than on paper work. HPF have simplified the paper work in matters like grant of increments and leave sanctioning. NTPC have not replied to the question. IISCO have referred to the

effects of nationalisation on paper work. During the period of private control of IISCO, not much formal systems in the office correspondence existed. With the take over by the government and change to the public sector, formalised systems have been introduced but paper work is sought to be reduced through specific guidelines. SAIL refers to the existence of practice in their organisation to reduce paper work. KIOC have a computerised MIS, which according to them, has minimised noting and paper work. Periodic instructions are issued by HSL to reduce paper work on aspects like nature and format of notes, summary of points seeking directions. Official reply from BRPL concedes that there is no directive/convention on this issues and that the system needs a lot of improvement to minimise the tremendous amount of unproductive paper work.

Management Information System

11.8 Management Information System (MIS) are designed to provide early detection of opportunities and threats as well as continuous feedback on performance indicators. In order to gauge the extent of usage of MIS, the following question was asked:

Do you have (i) Management Information System for planning and control at different levels, and (ii) Data

Bank? If yes, please give its salient features, including the reporting system and explain the extent of use of computers, if any.

11.9 Seven high performing enterprises, viz. CCL, NTPC, BHEL, ONGC, IOC, RCF and NTC (TN&P), have confirmed the existence of MIS and Data Bank. The degree of sophistication differs. NTPC have claimed that a Management Information System exists for various levels down the hierarchy and horizontally along the various functions and is based broadly on the fundamental principles of "Management by Exception". ONGC has introduced a three-tier MIS amenable to computer for planning, monitoring and control of resources at all the required functional levels. The planning and control process through MIS is also in operation at different levels in BHEL, IOC, RCF and NTC (TN&P). IRE have reported that they are in the process of planning MIS and introducing computers. HPF has not mentioned anything in this regard. Among the low performing companies IISCO, SAIL, KIOC and HSL reported to have developed MIS for planning and control at different levels. ERPL is in the process of establishing MIS and computer-based data bank.

11.10 Reporting System: Six high performing enterprises, viz. NTPC, BHEL, ONGC, HPF, RCF and NTC (TN&P) and two low performing ones (SAIL and IISCO) have developed reporting system for planning and control. IOC and CCL (high performing), and KIOC, BRPL and HSL (low performing) have not provided information on the reporting system. IRE is in the process of planning a scientific reporting system. In NTPC, the reporting structure is built up on the basis of exception reporting. The reports are generated by three Control Centres, viz. 'Engineering', 'Contracts' and 'Sites', on their respective activities. These reports are analysed and the various interface points and the critical areas are discussed in the project review team meeting, headed by General Manager of the project and having representatives of various Control Centres, Central Planning Cell and the Project Coordination Group. The Central Planning Cell, in addition, generates a Management Summary Report indicating the project completion trends and critical areas needing attention/review by the Chief Executive/Directors. ONGC have evolved M.I. Reporting System (MIRS) for Technical Operation and Drilling Business Groups for implementation and control. Each MIR is said to be linked with DATA Bank(s) at projects in ONGC. In BHEL reports are generated to cover important data (like financial performance, magawatt commissioned,

capacity utilisation of sets, manpower deployment, material inventory data, etc) extensively at departmental, divisional and corporate levels. The performance, in HPF, against targets relating to production, sales and profitability is being reported to the Chief Executives by the respective Divisional heads. Besides, the Government have prescribed a set of reports under the "Integrated Reporting System" in respect of on-going projects and projects under construction for reviewing the periodic performance. Various management control reports in RCF are being generated through computer, showing project status, areas needing management attention and action, time over runs etc. These are then reviewed in project review meeting and corrective action taken. In NTC (TN&P), the budget provides the bench mark for performance. The planned performance and the actual performance is reviewed every month. As a sort of early warning system, a weekly critical review report is prescribed. Through this report, the performance in production, utilisation, productivity and inventory of a particular week is discussed and reviewed in the following week. MIS reports are generated on computer covering financial, pay roll and inventory accounting, agewise

progress achieved by major contractors at various sites in terms of packages of civil, mechanical and electrical works. In ONGC, MIRs are linked to Data Bank(s) formed at project/region/corporate level. In IISCO, the Data Bank exists in Production planning and control, Financial, Personnel and Materials Departments as well as in Managing Director's secretariat. In SAIL, a centralised Data Bank has already been established at the Corporate Headquarter. The reply from HSL is not clear as to whether a Data Bank exists in their organisation or not. BRPL have indicated that computerised Data Bank is being established.

11.12 Use of Computers: Computers are being increasingly deployed for Management Information Systems in different functional areas of the Public Sector enterprises. Seven high performing enterprises (CCL, ONGC, NTPC, BHEL, RCF, HPF and NTC (TN&P) and three low performing ones (IISCO, KIOC and HSL) have fully or partially computerised their information system. IOC and IRE have reported that their MIS is in the process of computerisation. HPF are utilising the computer services of an outside party for payroll accounting, sales accounting, material control, etc. They propose to instal a computer "shortly". They have also

mentioned that their existing technology is such that there is no scope for computerisation in the area of equipment and process control. However, they propose to acquire new technology for the manufacture of polyester, X-ray, and graphic art films. This technology provides for computer control both in process and equipment. ONGC are deploying 12 Micro-computers and 24 Desk-tops in different regions/headquarters for business applications. Uniform compatible software packages have been developed at Headquarters for generating various MIRs for Operations Business Group on PSI OMNI computer system. A few computerised MIRs are also generated for Drilling and Technical Business Groups. A countrywise Packet Switched Data Network (PSDN), besides local area net works, are also envisaged for Business Applications. In NTPC "presently" the Data Bank and other operations are being supported by WIPRO Z-650 System with a CPU memory of 512K and auxiliary storage of BOMB. In BHEL use of computers is made to generate reports at all levels (departmental, divisional and corporate). According to the undertaking, computers help in integration of information, which, in turn, assists in quick analysis of performance and taking corrective short and long

term actions. RCF are using computers for their MIS for planning and control, especially in the field of project execution and monitoring, shut down planning and monitoring and generation of various management control reports. NTC (TN&P) have computerised their MIS reports, financial accounting, pay roll accounting, inventory accounting and age wise analysis of debtors. A main frame computer ECIL TBC 316 is in Corporate Head Quarters Office. In addition, there is one PC at Head Quarters and one at one of its mills. Six more PCs are being added to the other 6 composite mills. In IISCO the utilisation of computer for MIS is limited to some financial functions and a part of the inventory management. However, IISCO is planning to launch, in near future, a massive on-line computerised MIS programme through use of PCs hooked to the main frame computer. In HSL, the "present" contribution of EDP is limited. However, the computer "will" play a significant role in another two years time in HSL with the "recent" installation of a powerful computer system and elaborate study made of the user requirements including terminal based operations. SAIL have mentioned "the Information shall be recorded by the computer system at the source itself.....Besides, the Satellite Communication System shall be installed by 1990". BRPL is in the process

of establishing computer system.

Investment Processing System

11.13 To understand the process of initiation and finalisation of investment proposals, the selected enterprises were requested to reply the following question:

How are the investment proposals initiated and finalised within your organisation? Which of the technique(s) have you found most useful for sound investment decisions and what were the major difficulties encountered in their application? Please describe briefly with examples.

11.14 Five high performing enterprises viz: IRE, NIPPC, ONGC, BHEL and IOC and three low performing ones (namely IISCO, SAIL and BRPL) have indicated how they initiate and process their investment proposals. By and large, the investment proposals of a new project/expansion are initiated by the unit/division/region/headquarter/corporate office on the basis of identification of the project within the overall perspective/corporate plan of the organisation. Thereafter studies on various aspects such as locations, availability of raw materials/water/labour, infrastructural facilities (including transport and communications),

technological identification/development, available cost data, quality requirement analysis, customer preference analysis, market study of end products and overall financial viability are conducted and Preliminary Reports are prepared for consideration within the organisation and by the Board. After the Board's clearance, Feasibility Report/ Detailed Project Report (DPR) are prepared and are submitted for appraisal by the various agencies of the Government, depending on the cost of the project, as per modalities of approval of investment proposals in public enterprises. In IISCO, investment proposals originate from the user agency/the project cell/ the Design Group/ senior executives. These are first examined by a High Power Capital Expenditure Committee (CAPEX) and then by the finance department on the cost-benefit aspects. Clearance and approval of expenditure is accorded by the Chief Executives/the IISCO Board/ the SAIL Board/the Government depending upon the investment quantum. SAIL and BISPL are following the BPE procedures. NTC (TNQF) (high performing) have reported that the investment proposals are initiated either by the General Manager of the Mill or the Technical Division of the Corporate Office and are finalised or approved by the Board.

Three high performing enterprises, viz. CCL, RCF and HPF, did not respond to the question as to how are the investment proposals initiated and finalised. KIOC have admitted that not many investment decisions have been taken by them since it is relatively a new undertaking. In HSL, normal requirement of investment are taken care of by capital and development budgets and very important investment proposals are processed by High Level Committee, Project Team.

11.15 Techniques Applied and Difficulties Encountered; Seven high performing undertakings viz, IRE, IOC, NTPC, ONGC, BHEL, RCF and HPF, are applying several techniques for sound investment decisions like Pay Back Period, IRR, DCF, NPV, Cost-benefit Analysis. None of the high performing enterprises except IRE, indicated which technique they considered most useful. According to IRE, the Pay Back Period seemed to be the best technique since it helps in judging how soon the project would be able to repay the investment. The remaining two high performing organisations, viz CCL and NTC (TN&P), did not respond to the question relating to the use of techniques for the purpose. IOC, BHEL and HPF did not face any major difficulties in

the application of techniques and IRE, CCL, NTPC and RCF did not respond on the aspect of difficulties encountered. According to NTC (TN&P), the average Pay Back Period is about 7 years but violent fluctuations in the prices of raw cotton and yarn in between the years bring in a lot of uncertainties for evaluation of the project objectively. ONGC also referred to the problem of escalation of costs due to inflation, and as a result they have to approach the Government for approval of revised estimates with detailed reasons for cost variation. The problems caused by deviations from *probabilistic* market trends have been overcome by BHEL through thorough market need assessment exercises and mid-course corrections e.g. adjustments made in EPABX, boiler auxiliary plant and large turbo-generator scheme. Three low performing enterprises mainly relied upon the techniques as follows: KIOC (Cost-benefit Analysis); HSL (IRR); SAIL (DCF, NPV and IRR). They did not, however, indicate which technique was considered most useful. IISCO referred to the existence of several techniques for finding out the soundness of investment e.g. IRR, Cost-benefit Analysis, DCF, Pay Back Period and mentioned that each of

these techniques has its own merits and demerits/limitations and is applicable to different sizes of investment. BRPL did not indicate the techniques applied. SAIL, KIOC, BRPL and HSL did not respond to the part of the question relating to difficulties experienced. IISCO referred to difficulties of inefficiency of data regarding prices, actual life of plant and equipment and replacement costs.

Monitoring System

11.16 Progress made for achieving corporate plan goals and targets is to be monitored and reviewed regularly for efficient implementation. The system adopted by the selected enterprises in this regard was enquired through the following question:

What are your monitoring system(s) for plan adherence? Please describe these briefly and mention how these are operated.

11.17 Five high performing enterprises viz. BHEL, IOC, ONGC HPF and RCF and three low performing ones, namely SAIL, IISCO and KIOC have described their system of monitoring for plan adherence. The BHEL have monitoring system at unit and corporate levels. At unit levels, the system uses budgets,

standard norms, statistical and quality control techniques, inventory control techniques, divisional performance indices on despatches, turnover, profits, resource generation, implementation of investment schemes etc.. At the corporate level, the system comprises of regular divisional reviews by Directors, Management Committee, Planning Managers' Conference, Corporate Monitoring Groups (physical, financial performance/progress). PERT, GPM, Bar Charts are also used widely to review/monitor the progress of projects. In IOC, the plan adherence is monitored at various levels such as units/regions, Division/Headquarters and Corporate Level through regular MIS and review meetings. At corporate level, the operations and projects are reviewed monthly by a committee of Directors. The ONGC system for plan adherence calls for three reports pertaining to (i) actual expenditure under broad heads, (ii) activity-wise report of expenditure on surveys, drilling, etc and (iii) actual expenditure on individual major project(Rs. 10 crores and above). Trend of expenditure monitored through these reports is compared with approved outlays to indicate likely cost/time over runs or allotted fund shortfalls. In addition, actuals of internal resources and profitability

are monitored every month and compared with annual targets. Review meetings are held at regular intervals to smoothen angularities, to rectify adverse trends through appropriate measures and to ensure plan adherence. The planned schedules available from PERT/CPM network are compared with actuals and monitored periodically at the construction sites and in the project review meetings for corrective action. RCF follows a similar system. NTPC did not reply to the question, while replies from IRE, NTC (TN&P), CCL and HPF refer to the systems of monitoring of plan schemes/projects/budgets rather than those for plan adherence. The position is understandable as far as IRE and NTC(TN&P) are concerned because these had not yet formulated their corporate plans.

KIOC have claimed that they have systems at various levels on daily, weekly and monthly basis both in terms of detailed and exception reporting. IISCO monitors their production plan through daily, monthly, quarterly and yearly internal reviews. Monitoring at corporate level is done on monthly and quarterly basis covering both production and financial aspects. Project monitoring in IISCO is done, both in terms of physical progress and expenditure incurred, on

monthly and quarterly performance as well as through "Milestone Charts". The long term plans of SAIL are broken into five year annual plans for each unit. The plans are monitored on quarterly, half yearly and annual basis. BRPL and HSL (low performing) do not seem to have developed a system for monitoring plan adherence. While there is no official reply, the comments of Director(Projects) of BRPL ^{indicate} that they are in the process of formulation of the corporate plan and as such the question of monitoring system for plan adherence does not arise. HSL set up a monitoring group in April 1987.

Project Implementation and Monitoring System

11.18 To ascertain information on project implementation and monitoring, the selected public sector enterprises were requested to reply the following question:

What is the project implementation and monitoring system in your organisation? Please describe briefly the management techniques which you have found most effective for controlling the schedule slippages and cost overruns and explain how these are operated?

11.19 The replies indicate that out of the nine high performing enterprises, three(namely: NTPC, BHEL and RCF) have developed comprehensive Integrated Project Management

Systems (IPMS) and are using it for project management. ONGC have a three tier project management system and IRE, IOC and NTC (TN&P) are using the CPM/Net Work technique. CCL and HPF have appointed Cells/Committee to look after the implementation and monitoring of projects. To execute the project in logical manner, the in-house Integrated Project Management and Control System (IPMCS) of NTPC involves: (i) coordinating all participants in project execution; (ii) induction of relationship between task and responsibility; (iii) developing realistic schedules; and (iv) planning; scheduling, monitoring, reporting, reviewing and controlling. The monitoring and control of projects are done through review meetings and progress is assessed at regular intervals. Action on slippages is taken according to established priorities. The system of reporting is hierarchical i.e. project monitoring is done at all levels in an hierarchical manner. RCF and BHEL are also using IPMS and their systems are also hierarchical with some variations here and there. The three-tier project monitoring system of ONGC, inter-alia, involves the monitoring of projects at the project, regional and corporate levels. Individual projects are being reviewed

periodically at the highest level at the project sites. The exception statements are being sent to members and Chairman for review. Remedial measures are taken promptly wherever necessary. Monitoring of projects costing over Rs. 75 lakhs each has been computerised upto the stage of placing of orders. IRE, IOC and NTC (TN&P) are monitoring the progress of implementation of projects through CPM/PERT Network to find schedule slippages and cost overruns and to take corrective measures. HPF have a Project Cell and a Project Implementation Committee for implementation of projects. The CCL has a GM Coordination Committee for the purpose.

Of the five selected low performing enterprises, SAIL and IISCO are in the process of developing IPMS replacing their old monitoring system to avoid delays in decision making process and to effectively control cost/time overruns in project implementation due to various constraints. KIOC have based their project monitoring system on MART and PERT Net Work. Each activity is monitored regularly and a monthly progress report is prepared comparing the achievement with Net Work Schedule. The delayed activity is analysed in depth and remedial measures taken. Despite

this, one of their projects had slippages in time schedule due to failures of collaborator and main equipment supplier. BRPL are having a similar monitoring system based on PERT/CPM. They are, however, having problems in completion of their projects within allotted cost and time frame. They had even retained EIL as their consultants and project implementation agency. Their problems are reported to be the lack of commitment on the part of vendors, both indigenous and overseas, to effect timely deliveries. The system of project implementation and monitoring in HSL consists of appointment of project managers, setting up of the monitoring group and regular appraisal.

11.20 Techniques Adopted: IOC, BHEL, ONGC, HPF, RCF and CCL among the high performing enterprises did not directly reply to the portion of the question relating to the management techniques found to be most effective for controlling the schedule slippages and cost overruns. NTPC is reported to be employing (i) MBO(Management by Objectives), (ii) MBE (Management by Exception), (iii) PERT (Performance Evaluation and Review Techniques), (iv) GERT (Graphic Evaluation and Review Technique) (v) Resource Levelling,

(vi) Bar Chart, (vii) Histograms, and (viii) S. Curves. But they did not indicate which of these are most effective and how are they operated. IRE and NTC (TN&P) have found Net Work/PERT technique to be most effective for controlling slippages in schedule and cost overruns. The progress is monitored through quarterly reports and compared with CPM Net Work schedules. The slippages in any area are corrected to catch up with the schedule assigned in the Net Work. Among the low performing enterprises, IISCO^{have} mentioned that the PERT and milestone charts techniques, which they are using, are quite effective. SAIL, BRPL and KIOC are also mainly adopting PERT/CPM but have not indicated what technique is found to be most effective. HSL did not respond on this aspect. From the description of experience of use^{of} PERT/CPM technique for project implementation and monitoring in both high and low performing enterprises, it seems there is variation in the sophistication of application.

Production System

11.21 For obtaining information on production planning and control, following question was asked:

What management system have you adopted for production planning and control? Please describe briefly with results achieved.

11.22 Three high performing enterprises, (viz. IOC, NTPC and BHEL), have developed elaborate systems for production planning and control. In IOC, there is an integrated approach to planning and control. For production purposes LP Models have been developed which take into account the variations in crude mix, product demand, scheduled shut down of process units, product specifications etc. for developing the optimum product pattern. The production plans are made on monthly and annual basis. NTPC have adopted operation performance monitoring system (OPMS) for production planning and control. Under OPMS, annual generation targets and maintenance plans are fixed on the basis of past performance, anticipated constraints and maintenance schedules. The generation and major factors influencing it are analysed periodically. In BHEL, the various Divisions operate on productwise planning and control system. They have annual production plans emanating from annual budget. These are broken into monthly plans. Besides, the Division has Long Range Planning (LRP) group for the plant as a whole. The LRP group has interface with the corporate planning group to cut down production cycle of

major products, to produce quality products, minimise loss of materials and reduce inventories. IRE mentioned that Budgetary and Cost Control Systems are adopted for production planning and control. ONGC was of the opinion that production planning and control are more relevant to engineering, industrial and refining sector, implying thereby that the question does not concern them since they are engaged in exploration and exploitation activity. HPF informed that they have a separate department for production planning and material control and a Production Planning Committee. RCF have a continuous chemical process and their production planning lays high stress on capacity utilisation. NTC (TN&P) does not have an elaborate system for production planning and control since the time required for the production cycle is hardly a week. However, in selecting mix, they use contribution analysis extensively and in order to maximise profitability only those counts, which yield highest contribution per loom, are produced.

Among the low performing enterprises, SAIL have a three pronged system: (a) formulation of annual production plan,

(b) their execution, and (c) control. The annual production plan is drawn keeping in view the market demand (both short and long term), availability, ideal product mix in each steel plant, optimum utilisation of capacity and other technical considerations. The execution of the plan is carried out through such schemes as Time Bound Supply Scheme and Demand Registration Scheme etc.. In the control system, the production is ensured through Monthly Sales Co-ordination meetings wherein production for current month is reviewed and corrective action taken. IISCO are following centralised production planning and control system. Production targets and fulfilment is based on traditional system on long term/yearly/monthly plans, etc., followed by monitoring. Reduction in rejection/yield improvement are endeavoured through use of SQC technique. Optimisation of product mix has been carried out through linear programming. The production plan of BRPL depends upon crude availability and is formulated in consultation with Oil Co-ordination Committee/Ministry. KIOC and NSL did not describe the system adopted by them.

Capacity Utilisation

11.23 Efforts made for improving capacity utilisation is another aspect of investigation and selected enterprises

were requested to reply the following question:

What steps have been taken during the last three years for improving capacity utilisation? Please briefly describe the results achieved.

11.24 Seven high performing enterprises viz IRE, NTPC, IOC, RCF, BHEL, HPF and NTC (TN&P) ^{are} reported to have taken steps to improve their capacity utilisation. ONGC mentioned that the term "capacity utilisation" was more relevant to engineering or the refining sector and it did not concern them as they are engaged in exploration and exploitation of oil. CCL is reported to have formed a committee for the purpose. Some of the common measures taken by the said seven high performing enterprises, are:-

- (i) Formulation of special schemes or constitution or energising of a group/committee/separate department to (a) look after the general problems pertaining to capacity utilisation, (b) monitor trouble shooting areas, bottlenecks and equipment deficiencies, and (c) take corrective action. BHEL have even formed a Corporate Manufacturing Technology Development Group to review and identify potential means to remove bottlenecks, to streamline production, and to achieve high capacity utilisation.
- (ii) Progressive modernisation and replacement of defective/worn-out machines and provision of

improved versions of existing machines to (a) improve and provide balancing facilities in existing plants and (b) reach, or even exceed, the rated capacity.

- (iii) Technical/metallurgical upgradation as well as marginal investment using existing capacity, resources and skill to (a) improve performance, (b) enhance capacity of plant/equipment, and (c) for line balancing.
- (iv) Better preventive and predictive maintenance of key equipment and more effective inspection practices to avoid/reduce breakdowns and to keep the total turn around days to the minimum. Some of the high performing enterprises have even evolved Maintenance Management Systems and prescribed maintenance drills to minimize breakdowns and to reduce machine downtime.
- (v) Installation of captive power generators to ward off perennial power cuts.
- (vi) The other measures taken by individual high performing enterprises to enhance capacity utilisation include: collecting equipment history to identify area of maximum problems, rigorous monitoring for pinpointing deviations in operating control, conducting performance guarantee testing for confidence building, controlling operating parameters to improve equipment life, introducing attendance bonus scheme and improving working conditions to eradicate loss of capacity utilisation on account of absenteeism and improving marketing.

Similar steps for improving capacity utilisation are reported to have been taken by SAIL, IISCO, KIOC, BRPL and HSL (low performing). SAIL and HSL have taken steps for modernisation and technology upgradation of their plant and equipment. SAIL, IISCO, BRPL and KIOC have taken steps for systematic maintenance/overhaul of their plant and equipment. Certain other measures adopted by individual low performing enterprises, include: (a) improved work culture focussing on better team work and discipline, (b) better inter-plant cooperation ensuring transfer of in-process materials and inputs from one plant to another, and (c) R&D efforts to improve production and efficiency.

11.24 Results Achieved: As a consequence of the steps taken for improving the capacity utilisation, two high performing undertakings, viz NTC (TN&P) and HPF, have referred to their production levels and three namely, IRE, RCF and CCF have not reported. ONGC have only referred to the "success ratio". I.O.C. have reported overall capacity utilisation of more than 100% for the last three years. Some of the measures taken to improve capacity utilisation are reported to be (i) better preventive and predictive

maintenance; (ii) upgradation of metallurgy of some of the equipment; (iii) regular control of operating parameters; and (iv) better inspection practices. NTPC reported that capacity utilisation increased from 69% to 79% over successive years. The steps taken to improve capacity utilisation were mentioned as (i) introduction of Maintenance Management System; (ii) identification of areas of maximum problems; (iii) conducting performance guarantee testing; (iv) holding Monthly Coordination meeting; and (v) rigorous monitoring of operations. BHEL reported that capacity utilisation of short cycle products serving the industrial sector in competition with other companies is 60% - 100%. The measures taken were mentioned as (i) establishing Corporate Manufacturing Technology Development Group; (ii) acquisition of technology; (iii) increased emphasis on marketing; and (iv) making marginal investment for making better use of existing capacity, resources and skills.

Three of the low performing enterprises have not clearly indicated the results achieved through steps taken for higher capacity utilisation. KIOC have not furnished any information on the aspect. BRPL and HSL have simply

observed that their capacity utilisation efforts have shown better/encouraging results. SAIL have reported that capacity utilisation increased from 66% in 1983-84 to 79% in 1986-87. IISCO have referred to "achievable capacity" which increased from 67% in 1984-85 to 92% (anticipated) in 1986-87.

Inventory Management

11.25 Materials form substantial part of the cost of production and the selected enterprises were requested to respond to the following question on management of inventories:

What technique have you adopted for the management of inventories? Please describe briefly with results achieved for keeping inventories at desired level.

11.26 CCL mentioned that a committee has been formed to reduce inventory. Replies from eight high performing enterprises, viz. IRE, IOC, ONGC, BHEL, NTPC, RCF, HPF and NTC (TN&P), indicate that they have set up Material Management Inventory Control Cells/Committees for Inventory, Spare Part Management Systems (Computer aided or otherwise),

to keep inventories at desired levels, to identify weak aspects and to find solutions relating to inventory problems. Usually the inventory levels are fixed at the time of formulation of annual budget and contain details of purchase, consumption, inventory and cash flow etc.. Various techniques are being employed to optimise inventory levels. Most of the high performing enterprises undertake ABC analysis for stock items/stores inventory/materials handled. Special attention in inventory management is attached to categories A and B. Planning, scheduling, and procurement of materials under these categories is constantly watched so that the enterprise neither carries higher inventory in respect of these items nor production is hampered for want of these materials. Most of the high performing enterprises have also classified and codified materials for variety reduction and standardisation. Reference catalogues have been prepared by some of these enterprises. NTPC, HPF and BHEL are carrying out continuous analysis of fast moving, slow moving and non-moving items as well as items which are not of critical nature. Liquidation plans for the disposal of surplus stocks have been prepared. NTPC deletes very slow moving items and

items not of critical nature from the orderbook, even if recommended by the manufacturers. Another technique being applied by some of the high performing enterprises for inventory control is fixation of maximum/minimum and re-ordering levels for all stock items with regular offtake, on the basis of past consumption profile and anticipated requirements. Some of the high performing enterprises are also trying to control inventories by applying different techniques for different items. For example, NTC (TN&P) carried out: (a) ABC analysis, the fast moving/slow moving analysis and comparisons with Tandon Committee norms for inventory management of stores, (b) age-wise analysis of stock and comparison with Tandon Committee norms for finished goods; and (c) comparisons with Tandon Committee norms for raw materials and W.I.P. Similarly ONGC is using: (a) ABC analysis technique for all items; (b) maximum/minimum technique for those items which have a regular offtake (e.g. POL, cement, chemicals etc); and (c) VED analysis for management of spares. Another vital aspect of inventory management is purchases. It appears from the replies received from the high performing

enterprises that they are quite alive to the impact of purchases on the inventory levels. NTPC, for instance, try to maintain inventory turnover ratio at 12 month period. CCL have informed that a committee has been formed to reduce inventories. In RCF, computer indents are generated for stock items based on reorder levels. Purchase order and indents follow-up is aided through outstanding purchase order/indent lists from computers. HPF are effecting purchases of bulk of the materials on regular annual contract basis, predetermining the requirement on the basis of standard norms of material usage and volume of anticipated production. Hence proper scheduling for receipt of materials is done even at the time of placing orders. IRE are adopting material planning with clearcut procurement policies encompassing vendor equipment, vendor rating and ancillaries. They are also following the system of centralised rate contract for items amenable to bulking.

Among the low performing enterprises, SAIL have a Material Management Department at each steel plant to manage inventories and IISCO have Indent Scrutinizing Committee for monitoring purchase of spare parts. As for techniques

applied, SAIL and IISCO carry out ABC analysis of various stock items. Review of slow moving/non-moving items is done regularly by SAIL, IISCO and HSL. In addition, SAIL and KIOC are fixing maximum, minimum and re-ordering levels for various stock items. SAIL's ordering system is based on EOQ. SAIL have also embarked upon a system of codifying items as well as formulation of in-plant and inter-plant standards with the help of Bureau of Indian Standards. IISCO are applying standard procedures of quality control. KIOC have emphasized that since their inventories consisted of spares of equipment, they are purchasing certain quantities of spares along with the equipment. Thereafter additions are made according to re-order level system as well as assessment of spares for particular production programme on annual basis with staggered deliveries. BRPL have mentioned that raw materials products inventories follow certain industry norms on storage. Inventories of petrochemicals have two aspects: (i) meet the market share by variety of strategies; and (ii) maintain production at a manageable level from storage consideration.

11.27 Results Achieved: BHEL reported that inventory turnover ratio in terms of number of days consumption

has comedown to 150 days at the end of 1985-86 compared to 270 days in 1980. HPF have reported improvement in the inventory level over the years. The level of inventories in terms of number of days consumption in HPF has fallen from 114 to 97 days in RM stores and spares and from 132 to 38 days in finished goods, respectively as on 31.3.83 and 31.3.86. The work-in-progress has, however, increased from 16 to 31 days over the same period. NTC (TN&P) have claimed that they have, by and large, succeeded in keeping inventory levels within the norms, excepting in the case of finished goods and W.I.P., particularly cloth with processors. However, since their composite mills do not have enough capacity for processing grey fabrics, they are forced to send the greys to Bombay for dyeing. Moreover, their composite mills do not have fabric printing facility and they have to depend on outsiders who are not punctual in completing the job. Due to this handicap, the work-in-progress is below the norms. In finished goods, particularly cloth, NTC (TN&P) is at times forced to carry higher stock because of the unfavourable marketing conditions. IRE, NTPC, CCL, ONGC, IOC and RCF have not responded on this aspect.

Among the low performing enterprises, KIOC have reported that they have, by and large, achieved the results of keeping the inventories at the desired level. SAIL have mentioned that there has been definite improvement in the pattern of stores and spares as a result of their inventory management. Their inventory of stores and spares in, terms of value fell from Rs. 691 crores as on 31.3.1984 to Rs.616 crores on 31.3.1986. IISCO, BRPL and HSL have not responded in this connection.

Financial Systems

11.28 To ascertain the efficacy of operation of financial systems of budgeting and cost control, the selected enterprises were requested to answer the following question:

What financial systems of budgeting and cost control have you adopted in your organisation? How have these worked over the last three years? Please describe briefly with examples.

11.29 Budgetary System: The responses from the high performing enterprises reveal that despite a wide variety of adaptations in the budgetary system to suit the needs and operations of each enterprise, there is a basic uniformity

in their approach. Enterprises usually prepare capital and the revenue budget on the basis of thrust areas identified in the corporate plan or, otherwise, defined as overall objectives. The budget guidelines are laid annually. The annual budget is then formulated in detail, project by project, unit by unit, process-by-process and product-by-product, on the basis of order book position, on-going investment schemes, technology absorption, customer commitment, available capacity, norms of material usage and capacity utilisation, actual/past experience, new ideas, changing environment and anticipations for the future, etc. The annual budgets set physical targets, and give financial interpretation to them so that all heterogeneous, but interrelated targets are brought to a common unit of measurement. For short term control purposes, the physical/financial targets are broken down into monthly/quarterly targets so that actuals achieved for, and upto, respective period can be compared with corresponding targets for appropriate action. The control is effected through a system of MIRS which monitor the actual performance

vis-a-vis physical/financial targets. To ensure effectiveness of the control tool, periodical reporting and review mechanism has been incorporated. The review is carried out at various levels in the enterprise and corrective action taken, wherever it is deemed desirable. Apart from these, NTPC, IOC and RCF have introduced the concept of zero-base budgeting.

Among the low performing enterprises, SAIL and IISCO, have a system of budgeting akin to the high performing enterprises. There was no reply from BRPL in respect of system of budgeting, while KIOC have simply mentioned that they follow the system of annual and monthly budgets. HSL have reported that their system of budgeting is mostly based on variance and exception analysis. Vast improvement in this respect is still required. They hope to implement up-to-date on-line system on their computer soon.

11.30 Cost Control System: The question on cost control system evinced response from all high performing enterprises except IOC and EHEL. HPF referred to the system of standard costing for controlling cost of operations in their

organisation. Standard costs, reflecting the budgetary norms, are set rigidly to motivate departmental managers to attain higher levels of efficiency. The actual costs, (with reference to budgetary provisions) are monitored and compared with the standard costs periodically. Variance analysis is then carried out to highlight deviation on account of material usage, price changes, plant utilisation, exchange fluctuations, government levies etc. Appropriate corrective measures are taken accordingly. The HPF have found this system effective for cost control. IRE and RCF follow a similar system. The system of cost control in NTPC (operation and maintenance phase) and NTC (TN&P) are dependent on tariff agreement and statutory Cost Accounting Record Rules, respectively. In NTPC, the operations and maintenance budget targets are fixed at a level comparable to, or better than, the norms adopted under tariff agreement. The variance analysis between these norms and the actual ones is carried out periodically to identify controllable and non-controllable factors and for suitable corrective action. For the construction phase of their activities, however, the project work is split into various

activities which generally respond to contract packaging. The approved cost, the contracted value and latest assessment of cost to completion for each activity are compiled to get an overall idea of variation in costs and the areas where improvement can be made so that by controlling the physical and financial parameters, the major objectives of cost control are achieved and project cost is within the reasonable limits of the approved cost. Normally the cost variations are broadly analysed under categories of price-escalation, scope/physical changes, and "other cases" such as custom duties and exchange rate variations. The NTPC have found this system quite useful in construction, operation and maintenance phases of their project. The textile industry is covered under Statutory Cost Accounting Record Rules. For costs control, the NTC (TN&P) have been using cost accounting both on marginal cost and absorption costing. The marginal costing technique is used to select optimum product mix. The activities of ONGC are altogether different since they are engaged in exploration and exploitation of oil and gas activity (and not in processing and manufacturing). The elaborate system

of cost control which ONGC have developed for its major activities - namely (a) geological and geophysical surveys, (b) exploratory drilling, (c) development drilling (d) construction of production facilities, pipelines etc. and (e) logistic administrative and financial support - differs widely from activity to activity and stage to stage. Broadly speaking, it entails comparisons of budgeted costs and actual costs through measurements of such parameters as cycle speed, line meters covered on surveys, expenditure on drilling/surveys, *rig* productivity etc. The variance analysis enables them to pin point whether the targetted activities have been achieved at the targetted expenditure and analyse the reasons for variations for suitable remedial measures. CCL reported that they are in the process of finalisation of target for cost control.

Among the low performing enterprises, IISCO, SAIL and KIOC follow a system of cost control which is, in essence, similar to that followed by some of the high performing enterprises like IRE, RCF and HPF. BRPL have only referred to the creation of cost consciousness among operating

departments, but have not provided an inkling of their system of cost control. HSL have reported that their cost control system is mostly based on variance and exception analysis. Vast improvement in this respect is still required. They hope to implement up-to-date on-line system on their computer soon.

11.31 Working of Systems: CCL, IRE, ONGC, IOC and RCF among the high and IISCO, SAIL and BRPL among the low performing enterprises did not reply how the budgeting and cost control systems have worked during the last three years. BHEL have mentioned that they are having satisfactory experience in budget formulation and control vis-a-vis the targets and that the participation is wide which ensures commitment. NTC (TN&P) have observed that the (marginal costing technique) analysis has helped them to go for more of value packed/value added products. HPF and NTPC have provided data on actual and budgeted costs and are satisfied with their system of budgeting and cost control. Among the low performing enterprises, BRPL have mentioned that their systems have worked satisfactorily, but HSL feel that vast improvement is required in their system. Other low performing enterprises have not responded in this respect.

Pricing Policy

11.32 Pricing mechanism is another aspect which has been enquired through the following question:

What are the systems and procedures followed for formulation of pricing policy and making changes therein for your products? Please describe briefly with reference to major products of the enterprise and mention the marketshare of each separately.

11.33 The responses to the question from most of the fourteen selected enterprises reveal that depending ^{on} product and/or situation/market, the prices are fixed in conformity with: (i) administered prices, or variants thereof; (ii) domestic competitive prices; (iii) international market prices; and (iv) a combination of any two or three of these. Most of the products of CCL, IOC, ONGC, SAIL, IISCO and BRPL are covered by administered prices. In BHEL, HPF, RCF and NTC (TN&P), the prices of the products are fixed with reference to domestic market condition and cost plus basis. Prices of NTPC products are fixed under a specific Act, a system akin to administered prices. The prices of products of KIOC and HSL are fixed on the basis of international market conditions. The criteria of fixing prices of IRE is a combination of all the three modes.

11.34 Administered Prices: The system of fixing administered prices, differs from product to product and enterprise to enterprise. In CCL, the prices of coal are determined by the Bureau of Industrial Costs and Prices. The prices of most of the products of IOC, ONGC and BRPL are fixed by the Government. However, prices of some of the products of BRPL, such as DMT and fibre, are not administered and are determined by market forces, scanning of market conditions, intelligence reports on competitors' moves, production plans of the company, inventory status, financial position etc. The prices of iron and steel products from major producers, including SAIL and IISCO, are regulated by the Government. Presently, Joint Producers Committee (JPC) is authorised to fix prices of most of the categories of iron and steel. However, the steel prices are still indirectly regulated by the Government through the Iron and Steel Controller who heads the JPC. The fixation of prices of these products is based on prices of major inputs like coking coal, power, railway freight, etc; and accepted norms of efficiency for the operation of steel plants. However, as per SAIL, past experience shows that regulated prices of iron and steel do not move with the escalation of prices of major inputs, leading to losses by Steel Plants. The prices of products outside the purview of JPC, like scrap, secondary products etc. are dependent upon demand/supply situation.

Castings are marketed on cost-plus profit basis while spun pipes are sold as per DGS&D rate contracts. Power being an electric utility, NTPC product price is fixed under the provisions of Electric (Supply) Act, 1948. Under this Act, the tariff of a generating company is fixed in such a manner that, after meeting its maintenance and operation expense, depreciation, interest charges and taxes, leaves a reasonable amount of surplus, the quantum of which is to be determined by the Government of India.

11.35 Domestic and Cost Prices Base: The second common mode for fixation of prices of products by public sector enterprises is the prevalent domestic market prices and the cost price. The pricing system for most of the products of BHEL, HPF, RCF and NIC (EN&P) falls under this category. Prices of products of RCF and NIC (EN&P) are fixed solely by market forces while HPF fixes the prices of its products on the basis of cost structure. BHEL's marketing is organised along sector lines and the prices fixed according to the nature of the product and the prevailing market environment (domestic global or both, as the case may be).

11.36 International Prices Base: The third mode is the fixation of product prices as per prevailing international prices; e.g. prices of the products of

KIOC and HSL. KIOC being a 100% export oriented unit, has, by and large, to accept competitive international price. HSL fixes the price of ships as per International Party Price (IPP).

11.37 Mixed Base: The fourth mode of fixing prices by selected enterprises is flexible one and a combination of any two or three of the criteria described above depending on the product. IRE, for example, follows a three-pronged pricing policy:

(i) the prices of products exported depend on international market situation, (ii) the prices of minerals scheduled under Atomic Energy Act, 1960 and the prices of the products of Thorium factory are administered, and; (iii) the prices of its other products, like sillimanite, garnet and TSP, are fixed taking into account the market conditions.

11.38 Changes in Price Mechanism: Regarding changes made in the price mechanism, only IRE, NTPC, HPF and NTC (TN&P) have reported on this aspect. According to IRE, HPF and NTC (TN&P), revisions in prices are made when it is absolutely essential and mostly with reference to cost of production and for variations in prices of inputs as well as market sentiments. NTPC, on the other hand, have mentioned that they have entered into an agreement for the sale of power from its regional super thermal stations to the beneficiary states for a specified period.

11.39 Market Share: CCL, BHEL, NTPC, RCF, ONGC and BKPL did not indicate the market share of their major products. KIOC has mentioned that the product of their company is fully exported. The other seven selected enterprises have given the details of the market share of their major products. Most of the products of these seven undertakings have a major and in some cases, even 100% share of the market. In IHE, the market share of eleven out of 12 items is between 95 and 100%. In IOC, the market share in six products out of seven varies between 52 and 69%. HPF had 20% share in still material and 100% in cine and x-ray films (except special type of films). SAIL and IISCO share varies between 60-100%. HSL has a substantially high share in shipbuilding and 25% in shiprepairs. The market shares of NTC (TN&P) products is a "trickle".

11.40 Marketing System: Modern marketing system comprises number of sub-systems like sale promotion, quality assurance, customer satisfaction, after-sales service and "listening" to the customer. Companies that are efficient usually do well in all these fields. To understand the marketing system of the selected enterprises, the following question was posed:

What is your marketing system with reference to sales promotion, quality assurance, customer satisfaction and after-sales services? Please describe briefly with reference to major products of your undertaking.

11.4.1 Sales Promotion: The replies indicate that the sales promotion efforts of the high performing enterprises usually follow the nature of products and the pattern of markets they operate in. ONGC, for example, mentions that there is no need for sale promotion since Indian economy is deficient in oil. Similar is the case with NTPC, who regard their customers as "beneficiaries". Some of the high performing enterprises like IRE and HPF, have delegated the sales promotion function to: (i) sole selling agents, distributors and stockists, (ii) marketing outlets and depots, and (iii) high level delegations to prospective markets in Europe and Japan (IRE). IOC and NTC (TN&P) promote sale, through routine and special advertising campaign, apart from other measures. BHEL, CCL and IOC organise seminars, training, and service weeks at retail outlets for customers as well as hold intensive interaction with them. An integrated sales promotion effort is vigorously pushed through by BHEL and RCF, taking into account many parameters as customers satisfaction, quality assurance, price competitiveness, commitment to customer etc. by way of suitable advertisements, village adoption (RCF), free soil testing services (RCF), credit sales facility, customer participation in development/identification of technology and emerging market needs, publications (product and technical data manuals) etc. Among the low performing enterprises, SAIL

and IISCO have so far taken only limited sales promotion measures because steel is essentially a commodity which has been tied by various distributive controls of the government. However, they have evolved sales promotion measures in respect of products which do not come under the purview of controls as well as value-added and sophisticated items such as pipes, electrical sheets etc. These two undertakings as well NIOC also promote sales through intensive interaction with the customers in order to evolve acceptable technical parameters so as to cater to their tailor-made requirements in terms of sizes and specifications etc. BRPL, are in the process of evolving a sales promotion programme. HSL have alluded to the adoption of multi-pronged aggressive approach to sales promotion, but did not elaborate.

11.42 Quality Assurance: IOC and BHEL are reported to have given prime importance to quality aspect and developed it into a regular system. In both these enterprises from the stage of procurement of materials to production and on to the final selling, stringent quality control checks are applied. This is ensured through: (i) specially designated persons/groups responsible for quality control; (ii) a net work of laboratories including mobile laboratories (IOC); (iii) tests conducted in the presence of customers (BHEL); (iv) third party inspections (BHEL); and (iv) regular update of technologies through modernisation of lab. equipments (IOC). NTPC have reported that through

stringent quality control measures they have achieved very high plant load factor of their generating stations with an average of 79.6% in 1986-87, as against all-India average of about 53%. IRE and ONGC (for natural gas) assure quality by strictly adhering to the specifications mutually agreed upon with the customers and making changes in specifications only to suit customer requirements. In crude oil, ONGC attempt to maintain the quality of crude regarding bottom sediments and water contents to meet refinery requirements since price of oil has some relationship with quality. HPF did not refer to measures of quality assurance. CCL have pointed out that quality and quantity of coal are taken care of through direct distribution system. RCF regard quality assurance as one of the many parameters for sales promotion. NTC (TN&P) ensures quality through replacement of defective goods. Of the five low performing enterprises, HSL and BRPL have thrown no light on the subject of quality assurance. KIOC have merely pointed out that a system of quality assurance is the responsibility of the Production Division and adequate technical and equipment support is available for this purpose. Quality assurance in SAIL and IISCO is, however, reported to be a continuous process, encompassing all operations from the receipt of raw materials to the supply of finished products.

to the customers. They have also constituted special quality assurance and other groups to ensure: (i) strict adherence to technical process, control norms, packaging, standards, inspections, etc; (ii) quick servicing of complaints of customers; and (iii) proper guidance to customers on product applications.

11.43 Customer Satisfaction: Out of the nine high performing public sector enterprises, CCL, NIPPC, HPF and NTC (T&P) did not react to the part of the question relating to customer satisfaction. IRE, IOC and RCF have mentioned that their market system is geared towards achieving excellence in customer satisfaction. This is achieved through quality products and technical services in IOC and by strictly adhering to the delivery schedules and maintaining quality of the product, in IRE. BHEL have informed that customer satisfaction occupies a very important place in their functioning. Their Product and the Project Management Groups are in constant touch with the customers for taking care of their needs. Besides, customers are trained at the manufacturing division/collaborators works. The concept of Project Management in BHEL gives a single point contact to the customers for catering to their needs with speed. ONGC have regular meetings with the consumers of OIL, LPG and NGL directly as well as in Oil Coordination Committee. In these meetings, the problems and forecasted requirements of consumers

are discussed and decisions taken for better customer satisfaction.

As a part of the strategy for obtaining customer satisfaction through after-sale service measures, BHEL have set up eight service centres in the country for meeting the aftersales service needs primarily. Besides, they have central "service after-sales" group at Delhi for meeting the needs of spares and services. They also maintain pool of spares for urgent needs of the customers. Based on customer requirement, they take up reconditioning and renovation of power plants. The ~~rest~~ of the high performing enterprises have either not reported about after-sale service measures or have such products which do not require these facilities.

Among the five low performing enterprises, only SAIL and IISCO are reported to have systems to look after customer satisfaction. They have set up separate wings/sections/departments and nominated officers to vigorously/constantly liaise with the customers to improve level of customer services. This also provides a regular feed back information about the results of corrective action taken at the plants and performance of their products at the customers' end. In case of genuine manufacturing defects, free replacement or other mutually agreed commercial settlements are arrived at. Moreover, corrective actions are taken in the production

lines based on these feed backs. Another salient feature of customer satisfaction drive in these two organisations is regular visits of representatives of major customers to the plants, and of IISCO/SAIL personnel to the customer for better appreciation of customer's problems. For settlement of quality complaint, they ^{are} reported to have decentralised and speeded up the operations in the post-sale activities. BPL have yet to develop a system of customer satisfaction and after-sale services. HSL have mentioned that they have adopted a multi-pronged aggressive approach for customer satisfaction and after-sale services. NIOC have mentioned that they hold discussions with their customers to meet their requirement but product peculiarities do not call for after-sale service.

11.44 Customers' Feedback: The excellent companies are said to believe that the customer/user is supreme as a generator and testor of ideas. In this context, the selected public sector enterprises were requested to reply the following question:

Is there a specific and regular mechanism for sales personnel to solicit customer's ideas for better ^{ment} of the product/services? If yes, please give examples of ideas implemented over the last three years.

11.45 Among the high performing enterprises, BHEL have a regular system of product development through such measures as feed back/interaction with customers involving market surveys, customer conference, technology development/scanning and regular performance analysis of commissioned equipment. The customer feed back in BHEL helped in improvement and development of direct ignition of pulverised coal, EBC boilers, bowl mills pumps, etc. CCL, IOC, ONGC, RCF and HPF maintain a close liaison with the customers through market surveys and their regional sales offices/marketing department/field officers etc., who directly meet the customers to solicit ideas for betterment of products, service etc. NTC(T&P) holds periodic meetings with its identifying agents to identify customer's choice, preferences and needs. They have also placed suggestions books at its 77 retail outlets to record views of customers which are taken note of. IRE did not respond to the question. NIPPC solicits customers' ideas through meetings. Of the five low performing enterprises, BRPL have not yet evolved a system of interacting

with the customers. KIOC and HSL are maintaining regular direct contacts with the customers, including personal visits and discussions with customers. In HSL, the feed-backs from customers have helped in construction of sophisticated drillship and embarking upon fabrication of well-head platform. IISCO solicits customers' ideas through market analysis for which major customers also approach them. The customers contacts and feed-backs have helped them in production of special coils like 'Z' bars, 'Z' pilings, colliery arch 8"X6" joist, 90mmx90mm angles. SAIL have referred to the 'Product Development' plans, the philosophy behind which has been to match the product mix with changing needs of the customers. The specific requirements of the customers in terms of quality/specifications and section profile/sizes are ascertained and product lines are re-organised to suit the customers' needs. Similarly in the area of normal marketing operations and after-sales service, the opinion of the customers and their associations are taken into account for future planning.

Internal Control System

11.46 Internal audit and vigilance occupy a very strategic position to curb socially undesirable conduct and prevent malpractices in an organisation. To understand the impact of these two systems on management efficiency, as perceived by the organisation and the executives, the following question was asked:

What are your systems of internal audit and vigilance? What in your opinion are their impacts on management efficiency? Please illustrate.

11.47 Internal Audit System: The replies received from the nine high performing enterprises reveal that basically there are two types of systems in vogue. The first is a typically bureaucratic system broadly structured on the pattern of functioning of audit in government departments and pertains to audit of accounts only. In CCL, IRE, RCF and NTC (TN&P), the internal audit is carried on periodical regular basis and audit reports are prepared. These reports are first discussed with the concerned departments and are mutually thrashed out. The audit paras which are not resolved satisfactorily are referred to higher esche^lons of

management for consideration and appropriate corrective action. The second system is multi-dimensional and has been adopted by NTPC, IOC, BHEL, ONGC and HPF. Broadly, the functions of audit under this dispensation are two fold: (i) auditing of accounts, and (ii) efficiency or technical audit of existing systems and procedures, functions and operational areas. The procedure and methodology adopted for auditing of accounts is generally similar to that followed in the case of audit of the first type. The efficiency or technical audit is, however, carried out by a multi-disciplinary team comprising of audit, management and technical expertise. Efficiency/technical audit encompasses a very wide range of areas, such as existing system and procedures, functions/locations, operations etc. The emphasis in technical audit is on improving efficiency rather than identification of shortcomings. Since the technical/efficiency audit reports give an analysis of the basic causes for deficiency/inefficiency/lapses etc., it enables the top management to take appropriate preventive measures and policy decisions to avoid recurrence of such lapses/failures in future. Another significant feature observed in the

replies from many high performing enterprises (IRE, ONGC, IOC, BHEL and NTC (TN&P) is that their internal audit systems is governed by an internal audit manual setting out objectives and activities of internal audit. However, CCL, NTPC, RCF and HPF did not refer to the existence of such a manual in their official replies.

Among the low performing enterprises, the internal audit in KIOC mainly consists of postcheck of adherence to systems and procedures. Internal audit in BRPL is being done on a selective basis since the audit group needs strengthening. In IISCO, SAIL and HSL the system is bureaucratic similar to that of government departments. SAIL management have reported that they give, from time to time, special assignments to internal audit which could lead to reduction of expenditure, and improvement of revenue, productivity and profitability. This practice helped in reducing the port rent considerably.

11.48 Impact of Internal Audit System: Regarding the impact of internal audit on the organisation efficiency, widely divergent opinions are discerned from the responses received. Among the high performing enterprises, CMDs opinion was not given in replies from IRE, HPF and NTC(TN&P).

In NTPC, ONGC, CCL, IOC, RCF and BHEL, the official replies indicated a positive impact of internal audit on management efficiency. However, a chief executive officer was of the view that audit work usually results in fault finding and piling up observations. Official replies from NTPC and ONGC praised their internal audit system.

In ONGC, the Internal Audit System has helped in modifying various policies to reduce wasteful expenditure and in taking disciplinary action against officers for their lapses. IISCO felt that internal audit has helped in proper administration. In a large organisation like theirs, deviations from rules/procedures/conducts can occur and internal audit, along with vigilance provides "checks" and "balances". But the Secretary, Iron and Steel Engineering Workers Union was of the view that the internal audit as well as the vigilance system are geared to the fault finding and suggesting punishment whereas these should be broadbased and should aim at suggesting improvement also. Both SAIL and HSL have felt that there is scope for improvement of the internal audit system and that this system needs to be strengthened qualitatively to take up efficiency audit. Due to this

inadequacy, the management is at a slight disadvantage. SAIL has also mentioned that the internal audit has benefitted them in cases where there is scope for reduction of expenditure and increase in revenue. A very senior executive of HSL is of the opinion that internal audit is mostly a post-mortem affair and that it functions more to please the high-ups rather than to satisfy the basic norms of management functions. In BEPL, employees are becoming conscious of the implications of internal audit. Another very senior executive of BEPL has opined that the internal audit system has not served the purpose of improving management efficiency because adequate action is not taken against the defaulters of rules and procedures. It is also reported that in some case of misutilisation of power instead of taking action against the concerned people, the powers of all the people at these levels were withdrawn resulting in demoralisation of honest officers. IOC did not respond to this part of the question.

11.49 Vigilance System: Among the high performing enterprises NTPC and IOC are reported to have vigilance system having both preventive and the punitive functions.

Vigilance organisation is headed by a Chief Vigilance Officer (CVO) on deputation from the Government in both the cases. The undertakings believe that a CVO on deputation would be in a better position to resist pressures from within the organisation and would function objectively and independently. The vigilance department under the CVO carries out indepth studies of the diverse operations of the enterprise. In these on-going studies vigilance executives, technical experts and executives from other disciplines are associated. On the preventive side, the rules, procedures, practices etc., obtaining in the organisation are carefully studied to streamline these for narrowing down corruption prone areas. The preventive vigilance in NIPCO led to amendment in gratuity rules for retiring employees involved in disciplinary cases, provision for declaration of relatives who are contractors and members of the same HUF and organisation of training programmes. On the punitive side, suo moto departmental enquiries and investigations on all complaints are undertaken. Those who are found guilty are given punishment commensurate with the guilt established. ONGC and BHEL did not respond to

this aspect of the question. IRE, CCL and NTC (T&P) have mentioned that they have a vigilance system. RCF have replied that their vigilance system is similar to that of any other public sector enterprise. IIPF have mentioned that they have two vigilance organisations (i) vigilance department which investigates the procedural irregularities and corrupt practices, and (ii) security department which concentrates mainly on physical assets; for example prevention/detection of thefts.

IRE, ONGC, BHEL and NTC (T&P) did not respond to the question of impact of vigilance system on management efficiency whereas NTPC, IGC, CCL, RCF and IIPF have mentioned that it had a positive effect.

Among the five low performing enterprises, IISCO and SAIL have vigilance system which accords high priority to preventive vigilance. The vigilance system in KIIC is reported to be the standard one prescribed for public sector enterprises but information was not given about its impact. BRPL and HSL have found that their vigilance system has inadequacies and limitations. BRPL described their vigilance system as a one-man show. HSL mentioned

that the stress in their organisation is more on security than on vigilance and that their vigilance department is being strengthened qualitatively to give more prominence to vigilance. Regarding the impact of the vigilance on management efficiency, IISCO and SAIL reported that their vigilance system has helped in checking corruption, boosting the morale of honest officers and providing "checks and balances". The Secretary, Iron and Steel Engineering Workers Union, however, had a different perception. According to him, the system simply finds faults and suggests punishment. He has also mentioned that the system should suggest the ways to improve also and that the people with new ideas should replace old bureaucrats. Though the vigilance system is yet to be fully developed in BRPL, the employees have become conscious of the implications of vigilance. Two senior executives of the BRPL and the IISL have different perception. In practice, the system does not maintain confidentiality, enquiries do not get completed to the logical end and malpractices are not effectively dealt with. This has created an environment of distrust and suspicion leading to low morale in the organisation and embarrassment to management personnel in dealing with workers.

Informal vis-a-vis Formal Approach

11.50 Systems are essential tools for enhancing managerial effectiveness. The approach to their application could be formal, informal or a blend of the two. Cross section of views of the senior executives were ascertained on the following question:

Are there any areas in your opinion where informal approach is better than formal systems and procedures? If yes, please briefly describe with reasons.

11.51 The CMDs of HPF, NTC (HNP) and IOC among the high performing enterprises; and BPCL (low performing) believe that in the public sector undertakings formal approach to systems and procedures is always preferable to the informal one because of their accountability to various agencies. On the other hand, CMDs of IRE, OCL, NTPC, ONGC, BHEL and RCF among the high performing enterprises and IISCO, KIIC and HSL among the low performing enterprises would prefer informal approach in certain areas of operation. This view is also supported by some of the responding executives, though the areas suggested for informal approach differed. Some of the major areas where the informal approach

could be helpful are redressal of grievances of employees, settlement of industrial disputes and trade union relationships, emergencies (especially breakdown of machines), operation of suggestion schemes, information interaction and feed-back, day-to-day operations, marketing and the whole gamut of Human Resource Development, etc. The reasons advanced in support of their contention are that it avoids unwanted delays, helps in creation of conducive working environment and strengthens harmony in industrial relation. This approach helps in formation of informal groups, especially at the grassroot/floor levels, which helps in creating cordial relations, team work and respect of each other, provides an opportunity for information and interaction on a variety of subjects and serves as an excellent feed-back system which in turn helps the management to pre-empt any serious development affecting industrial relations. Secretary of a workers' union has pointed out that workers ~~have~~ generally suffered from many inhibitions because of their social and educational background. But if they are encouraged to respond informally on different facets of operations of enterprise and the working life, they could

give many valuable suggestions from their personal experience. Besides, listening personally, gives them a feeling of importance and of belonging, thereby adding to their motivation. In sudden breakdown of machines informal approach is found to be very useful in re-running it. To procure materials or services to rectify the breakdown on the basis ^{of} ~~of~~ rigid adherence to systems and procedures, leads to heavy loss of production and manhours without any corresponding savings.

11.52 To assess the effectiveness of systems and procedures, the concerned executives of the selected public sector enterprises were requested to reply the following question:

What are the major systems working most effectively and least effectively? Please describe briefly these systems and give reasons for their being so.

11.53 IRE, CCL, BHEL and RCF have mentioned that almost all systems are working effectively in their organisation. On the other extreme is reply received from HSL, where no system could be graded as most effective or least effective. Available evidence shows that there is general

indifferences and complacency on the part of controlling officers and these are the reasons for average level of performance. NTPC did not respond to the question. In other enterprises, some systems are reported to be working effectively and other least effectively. Opinions offered by the executives on the working of specific systems differ widely. Some of the systems reported to be working effectively are Management Information and Monitoring Systems (NTPC (T&P) and ONGC), Planning (IOC, ONGC), Marketing (IOC, NTPC (T&P) and Financial (IOC, ONGC, NTPC (T&P) and HICC). There are companies where these systems ~~are~~ not working satisfactory e.g. MIs in BRPL and IOC and Financial System in BRPL. Dissatisfaction have mostly been expressed in the operation of systems of Career Planning (ONGC), Man Management (HIOC, BRPL) and Inventory and Purchase System (ONGC, BRPL).

11.54 Main Findings

- i) Six of the nine high performing enterprises and two of the five low performing ones are periodically reviewing, evaluating and modifying their systems and procedures to bring them in tune with the changing environment and dynamic needs of their organisations. Only a few of these involve external agencies in evaluation and review of systems and procedures.
- ii) Significant evidence for the discontinuation of existing systems and procedures is not discernible. The complexity of the systems operating in selected enterprises cannot be ruled out. Considerable scope seems to exist for simplification of systems and procedures and for discarding the ones that have outlived their utility.
- iii) While there is awareness, no concerted effort seems to have been made to reduce paper work. The general impression seems to be that increase in paper work emanates from fear of censure in the minds of executives at all levels for any decision taken (however honestly and in the best interests of the organisation) and it is believed that long notes explaining all aspects in details, and having the formal sanction of the seniors/corporate body/government would save them from embarrassment and harassment in future. It may be worthwhile to examine how far this impression is a myth or a reality.

If it is a reality, how it can be reduced. It also needs to be enquired at micro level, what is the impact of prevailing systems and procedures on the intensity of paper work.

- iv) By and large, the high performing undertakings have built up well-knit MIS for planning and control. On the other hand, some of the selected low performing enterprises have either not developed an effective MIS or it is in the rudimentary stages of evolution and/or implementation.
- v) Most of the high and low performing enterprises claim to apply standard techniques of sound investment decisions like IRR, Pay Back Period, Benefit-Cost Analysis. Some of the difficulties experienced are problems of forecasting due to lack/inefficiency of basic data, turbulent market conditions and erratic movements of prices, cost escalations etc. Further in-depth studies are necessary for improving the application of the techniques to assess investment worthwhileness of the projects.
- vi) Five high performing enterprises: namely IOC, ONGC, BHEL, HPF and RCF and three low performing ones, viz. SAIL, IISCO and KIOC have systems for monitoring plan adherence, but it is not known how effective these systems are. In three enterprises there are no corporate plans, and as such the question of establishing monitoring system does not arise. The remaining three have no monitoring system for plan adherence.

- vii) The high performing enterprises have developed varying degrees of sophistication in project implementation and monitoring and for this purpose rely mainly on IPMS, PERT/CPM/Net Work and Committees/Groups at different levels. The five low performing enterprises, on the other hand, do not have effective monitoring system. These are either in the process of discarding old inefficient systems and replacing them by IPMS (SAIL and IISCO) or they have yet to develop an efficient system of project implementation and monitoring (BRPL, KIOC and HSL).
- viii) From the description of experience of use ^{of} PERT/CPM technique for project implementation and monitoring in both high and low performing enterprises, it seems there is variation in the sophistication of application .
- ix) In both high and low ^{performing} public sector enterprises, the production planning and control system depends on production process pattern and market conditions. Attempts are made by the reporting organisation to design the system to achieve optimum production capacity, most remunerative product mix and annual production targets. The analysis does not reveal any model system of production planning and control. There seems considerable scope for developing an efficient production planning and control system specific to production process of the organisation.

- x) Out of the fourteen selected enterprises, eleven have not been able to use the achievable capacity fully. The low performing enterprises have much lower level of capacity utilisation as compared to those belonging to the group of high performers. The various measures reported to have been taken did not have the desired effect.
- xi) The level of inventories in the selected enterprises varies from industry to industry. The analysis reveals that there is considerable awareness about the modern inventory management techniques. The extent of application of these techniques needs to be ascertained through in-depth micro-level studies. Some of the suggestions made for effective inventory management like inter-company and national level codification and standardisation of inventories, centralised rate contracts and pooling of expensive spares, deserve attention for implementation.
- xii) Most of the high and low performing enterprises are controlling cost on the basis of historical standards and have not responded on their experience of working with the system. In-depth studies at micro-level are required for cost effectiveness of operations.
- xiii) The analysis reveals that in fixation of prices of selected public sector enterprises, four distinct approaches are seen. In quite a large number of cases, these are administered prices. In some these

are determined by market forces in India, in a few by prices at global level and in others by multiple of factors. From the data on market share of major products by the responding enterprises it is seen that most of the products have a major share or a near monopoly. The system of administered prices coupled with near market monopoly might leave scope for concealing in-efficiency, as is popularly believed, which needs to be enquired through micro-level in-depth studies.

- xiv) The analysis of replies do not give satisfactory evidence that the responding companies have obsession and commitment for quality excellence. This is probably so because most of these are operating in sheltered markets with varying tones of monopoly, semi-monopoly or perpetual shortages. This may also explain the lukewarm efforts in some cases for customer satisfaction and after-sales services. In response to the perception-based question, some of the executives have stated that there is a greater drive for meeting quantitative targets and quality is the casualty in the process. The divergence between percept and practice can be revealed only through in-depth micro level studies.
- xv) The analysis reveals that while most of the high and low performing enterprises have interface and interaction with the customers, only BHEL(High performing) and SAIL (low) have integrated and

deployed it as a measure of product development. Several illustrations have been cited by some of the both high and low performing enterprises indicating that customer feedback has played an important role in product improvement and development.

xvi) The analysis of replies reveal conflicting views— both supportive and critical—of the existing system of Internal Audit and Vigilance. The Internal Audit is mostly on the pattern of government departments, confined to auditing of accounts and vigilance system concentrates primarily on punitive aspects. In quite a number of cases, these systems are reported to have lead only to finding of faults and suggesting punishments. It has not helped in improving managerial efficiency. There are organisations where, along with auditing of accounts, technical audit is also carried out and the vigilance department takes care of both preventive and punitive aspects. This is said to have helped in improving management efficiency. Vigilance department in IOC and NTPC have the practice of undertaking in-depth studies in collaboration with technical experts and executives from other disciplines in areas like streamlining rules, procedures and practices and identifying corruption prone areas. This practice has the potentiality of revealing effective measures at micro-level so that positive orientation is given to system of Internal Audit and Vigilance for improving managerial efficiency.

xvii) The responding executives, trade union representatives and CMDs in both high and low performing enterprises have favoured informal approach in selected area like redressal of grievances, operation of suggestions scheme, day-to-day operations, rectification of machine breakdown. Some of the CMDs prefer formal approach to the systems and procedures because of their accountability to various agencies. A manager is quite often called to question for his omissions, even if done in good faith and with honesty. Elaborate notes save the executive from such an embarrassment. There is evidence for the feeling: to perform is dangerous; not to perform safe. The public sector executive, "play safe" and rigidly adhere to set systems, even if they are convinced that informal approach could yield better results. The general inference that can be drawn from these perceptions is that there are areas of operation as well as times and circumstances in which informal approach is likely to yield much better results than stubborn adherence to formal systems. In certain specialised fields on the other hand, only formal and strict application of system, procedures and sequences can achieve the desired goals. There may also be occasions when a judicious mix of formal and informal approaches could be effective. It is not feasible to demarcate areas or exigencies where informal approach is preferable to formal one and vice-versa.

Ultimately every organisation has to derive its own blend of formal and informal approaches, which could bring about right harmony and balance to achieve excellence.

12. THE EPILOGUE

12.1 The merit of the study proposal on "Management Excellence in Public Enterprises" was built on the established need of scientifically enquiring into what makes an organisation to excel in performance, and to get extraordinary performance from a person of average calibre. Some of the benefits of the study were expected to help in developing policy guidelines for management excellence, identifying management improvement programmes and locating areas of further research. To seek satisfactory replies to questions raised in defining the objectives of the study, information on functional aspects of management excellence was sought and analysed under six main ingredients viz: Strategy and Plan, Management Style, Corporate Culture, Organisational Structure, Staff and Skills, and Systems and Procedures. The findings from the analysis in different functional areas have been mentioned in the concerned chapters. A synthesis of various findings is given below.

Excellence Criteria

12.2 It is difficult to lay down the criteria for excellence in organisation functioning. It could be seen against some external standard or assumed potential performance, or earlier achievement or expert standard or as an unique or

exemplary performance. For the purpose of this study the criteria of excellence was defined implicitly in one of the questions raised for ^{describing} / the objectives of the study. It is the organisation ability to derive extraordinary performance from person of average calibre.

Multi-variate Approach

12.3 Management excellence is a multi-variate model and is the result of collective and inter-active impacts of different variables. Academics have not yet found a way to move deterministically. These variables relate to i) classic working environments like location, finance, technology, government regulations, employer-employee relationships; and (ii) managerial driving forces on part of executives like leadership style, systems, staff, corporate strategy, structure and culture. The former are bound to be around us in any way whether management asks for or not. This study indicates that neither all the nine high performing enterprises were distinctly proficient nor all the five low performing undertakings were badly deficient in trying to keep a balance between the sum of restraining classic forces beyond management control and

driving forces in control of management. The controllable factors like market situation in KIOCC, technological obsolescence in IISCO and government policy in ONGC and I.O.C. exercise corresponding deep impacts on performance of public enterprises. SAIL despite its elaborate systems and procedures has not been able to come up to the desired level.

Common Problem Areas

12.4 Among the various driving forces five issues emerging from the study explain to a considerable extent, the cause of poor performance of an enterprise. These five are:

- i) inadequate human resource management; (ii) lack of communication between management and employees; (iii) deficiency of management skills in middle management;
- iv) insufficient staff participation in decision making; and
- v) low culture of organisational vitality. Through proper attention to men and organisation, companies have been able to get best results in output, quality, cost and optimal utilisation of resources and became highly regarded.

Precept and Practice

12.5 The gaps in precept and practice were difficult to assess from information received through questionnaire. The respondents were requested to illustrate their replies to the perception based questions with some unique incidents of managerial dimensions. Unfortunately, many of the managers were unable to come up with recollection of such outstanding events. The claims of pursuance of some of commonly known good management practices like participative style, open communication, E.O.Q., A.R.C. Analysis, quality excellence, are put forward by both high and low performing enterprises. In real life, the extent of the use of these practices explain to a very great extent the differing levels of performance. The managerial effectiveness ultimately depend on how the trite statements are turned into practical reality throughout the sphere of operation. The management knowledge is though scientific, its practice is an art. The secret of achieving managerial excellence is how the various theoretical principles are put in practice. 'March against odds' aids management in pursuit of excellence. There can be infinite practical, sensible and justifiable reasons to compromise with standards of performance and for

not doing anything worthwhile. It is upto individuals to right themselves.

Strategy and Plan

12.6 Corporate strategies are 'sui generis'^a/kind of situational art and an integrative subject combining marketing, production, organisational behaviour and logistics. The managers in public sector by adopting a strategy of 'capture business relationships', can achieve better business results and higher capacity utilisation. In today's technological and competitive global environment, synergistic skills transfers and activity sharing between firms of public sector are extremely important for managerial excellence. BHEL and NTPC had taken advantage of such a collaborative strategy. The other examples of taking advantage of strategy of business relations in marketing are RCF and IRE. 'Capture business relationship' strategy has great potentialities of finding solution to shrinking market problems of KIOCC.

12.7 Most of the undertakings describe their objectives and strategies in general terms and some of them e.g., IRE and NTPC , have referred to what are provided in Memorandum

of Association. Willy-nilly, all companies for improving their business results have to lay precise measurable objectives and defend against four industry forces relevant to public enterprises to determine their corporate and functional strategies. These four are: i) bargaining power of buyers, ii) commercial strength of suppliers; iii) the threat/risk of substitute products and services; and iv) threat of new entrants at global level. Each of these categories has many ingredients. For instance, major barriers to entry into a business are economies of scale, product differentiation, capital requirements, government policy etc. Well distilled objectives and strategies can be developed by having Corporate Planning Department as in NTPC, IOC, ONGC and SAIL; extensive use of task forces as in IRE, RCF and BHEL; and some external professional consultant agency as in NTC (TN&P).

12.8 Capital and operating budgets are some of the common practices of the public sector enterprises for operationalising the Corporate Growth Plans. In several companies, budget preparation exercises proceed from making incremental adjustments to previous year's budget which might not appropriately reflect current strategies and invite problems

in implementation of Plans. Such exercises lack adequate appreciation of the fact that budgets are quantified Plans. Four high performing undertakings viz., IRE, RCF, CCL and HPF and three low performing enterprises-HSL, KIOC and BRPL seem to take budgets as compulsive exercises to meet the requirements of the Administrative Ministry and the Planning Commission rather than regarding them as an instruments of control. IOC is reported to have introduced zero based budgeting.

Management Style

12.9 Quality Circles, Management By Objectives (MBO), Organisation Charts, and such other concepts are useful, but these cannot influence the behaviour of the people the way an effective manager does. The speed of performance in an organisation depends on the top management. Their leadership sets tone for the organisation. Managers, for effective functioning, should have leadership style suited to the situations in their organisations. The overwhelming majority of respondents favour essentially situation and people oriented management style. There are, however, occasions when, according to the respondents, autocratic

approach is found useful. Nevertheless, the commonly held view is that balance must predominantly shift in favour of participative, democratic and paternalistic approach. The style can be effective if discussions are used as a part of consensus building. It is somewhat similar to the process 'nemawashi' in Japan whereby views on all sides of an issue are expressed.

12.10 Clarity of vision, clear instructions, open communication, concern for people and fair treatment are most commonly mentioned leadership qualities which aid managerial excellence. In progressive organisations, increasing attention has been paid to manager's ability to promote change in individuals, groups and organisations. The need to promote change and deal with resistance to it has put great emphasis on qualities of openness and humanness.

12.11 Managing with given procedures and distinct managerial style of senior executives often poses problems of trade-off between discipline and flexibility, and between control and creation. In growing organisations, the point of balance has to shift towards innovation and entrepreneurship.

12.12 The type and effectiveness of the management style of the Chief Executive is closely related to his tenure in office. Most of the executives have advocated a minimum tenure of 5 years for a Chief Executive in multi-unit enterprises. In relatively small and on-going undertakings it should not be less than 3 years. The 'sea gull' management (the process whereby new management fly in and make a lot of noise and fly off again) is not considered to be a healthy practice.

12.13 No evidence could be gathered in favour of the practice of 'transformation' leadership style which is said to have brought about upward shifts in the levels of performance in high performing companies of the West. Among public sector executives in India, reliance is seen to be on 'transactional' style implying exchange relationship between superior and subordinate and relying on incentives and rewards for improvement in quality performance-'You do this job for that reward'. The essential difference between 'transformational' and 'transactional' styles is that the former gets work done by 'pulling' or 'inspiring' or 'creating' and the latter by 'pushing' or 'ordering' or 'manipulating'. More effective public enterprises can be shaped with 'transformation' leadership style.

Corporate Culture

12.14 The cultural attributes have been perceived differently and many a time mixed with functioning aspects. For instance, some of the reported cultural attributes are motivation scheme (ONGC), quality circles (BHEL), risk taking morale (IOC), motivation through awards (NTC-TN&P), proper industrial climate(IISCO), sound personnel policy (HSL). Over and above it, most of the cultural attributes are practised in a ritualistic manner rather than as a substantive commitment. These are talked about and widely publicised as hollow rhetoric, but not practised and pursued in a systematic manner. The approach to develop and practise cultural attributes is seen to be fragmentary and piecemeal.

12.15 In most of the undertakings, the corporate culture is stable over time and, by and large, has the characteristics of being non-entrepreneurial, risk-averse, and low in organisational vitality, being procedure than result oriented. The need for business culture in public enterprises has been repeatedly emphasised in conferences of the Chief Executives of Public Enterprises and at other forums of public sector executives. The cultural attributes having human concern like, team spirit, fair treatment, work commitment, and those

relating to leadership and motivation have great impact on high performance according to the replies received from IOC, ONGC, BHEL, NTC (TN&P), BRPL and HSL.

12.16 There are no magic formulae for creating suitable corporate culture as "shared values". It is built over years through trial and error. A lethargic culture tends to be stiffer and less responsive to change. Every Chief Executive passes on valuable traits to succeeding generation. Strong corporate culture like strong family culture comes from within and it is built by individual leaders through education, expert care and training. The change in culture primarily rests with those who can exercise influence in the organisation and the manner in which they exert it. In shaping the company's culture, social and business environment, personification of cultural values by top executives, means of communication and rituals and rites play an important role. Almost all the respondents feel that social culture and environment factors exercise a dominant influence on company's culture which the organisational leadership should take note of. Caste system, inter-union rivalry and local political instability, have adversely affected organisational working in BRPL, HSL, RCF, IOC, ONGC (in North-Eastern Region) and IISCO. Shared values are clearly evident in high performing

organisations in providing services to the customers, quality assurance, innovations, treatment to employees etc..

Organisational Structure

12.17 Most organisational designs seem to be rigidly hierarchical and bureaucratic and characterised by diffused decision making and procedure orientation. Some changes are seen in progressive organisations like ONGC, NTPC, BHEL where divisionalisation is used particularly in areas of production, R & D project management and in handling a group of products as 'Profit Centres'. Policy making, coordination and interaction with international companies are centralised. The common tendency of 'empire building' is not good management. The present system makes distinction between policy and operation. The former is centralised, latter is decentralised. Small divisions and flexibility of basic units with centralised coordination can put money to its best use. Such undertakings are characterised by functional units which often take a role of being "in-house subcontractors" striving the will of the organisation to increase their own

resources and power. The Central Office manage four functions viz., the corporate plan, budget, senior appointments and externalities. The corporate finance staff serves as an 'inside banker' and 'inside investor', deciding how to allocate capital among the operating units.

Restraints on "Corporate Capitalism" as termed by Peter Drucker through divisionalisation generates dynamism. This type of restructuring calls for wider use of 'Holding Company' concept-what William G. Ouchi calls it H-Form Structure.

12.18 The companies on the move like IOC, ONGC, RCF, BHEL, HPF, NTPC have the common practice to form temporary special purpose organisational groups by various units/ departments all over the organisation on a continual basis. It is a way of solving and managing thorny problems. The leadership, size, membership composition, follow-up and documentation are decided on case by case. The academic evidence indicates that optimum size of a task force is seven.

12.19 The progressive undertakings need a management that encourages technical creativity and innovation. Creativity is thinking of new things. Innovation is doing the new.

Ideas are useless unless used. Value of ideas is in their implementation. In IRE, CCL, RCF, BHEL, HPF and many other enterprises, innovation is promoted through suggestion schemes of various kinds like 'cash your idea', 'quality circle', 'recording in confidential report', 'advance increments'. The evidence could not be gathered for 'entrepreneurship'- the creating of small entrepreneurial units within the organisation with freedom and flexibility to operate virtually as small independent business. The evidence could not also be collected where deliberate attempts are made to structure the organisation for creating three roles of - 'idea champion', 'executive champion' and 'god father' for effective improvement and converting 'word' into action as seen in high performing organisations of the West.

12.20 The success of an enterprise to a considerable extent depends upon the quality and contribution of Board members and how far the Board is effective in directing the affairs of the business to achieve excellence in performance. Replies from all the respondent enterprises reveal that all the Chief Executives are professionals. The full-time Directors are also mostly professionals with functional specialisation. The part-time Directors are mostly Central

and State Government officials. In IRE, NTC (TN&P), KIOC and HSL, around 70 to 80 per cent. of the Board of Directors are part-time. In ONGC, only 2 out of 10 Directors are part-time. ONGC also uses expertise of independent outside professionals in internal advisory committee. The quality and contribution of the Board of Directors can be improved if management academics and other professionals from Universities and National Technical Institutes are associated. The structure of the Boards has close relation to the performance of their visionary or rubber-stamp role.

Staff and Skills

12.21 Human resource is recognised as a most valuable asset whose talents need to be developed and used by all the respondents executives. Competent people explain the magic of excellence. Ultimately on the skills of the human factor rest the success of an undertaking. The term 'skill' at cumulative level connotes organisation's capabilities to respond to change in environment and to innovate. There is an established positive correlation between proper training investment and high performance outcomes. Out of

146 production enterprises, 79 have their own training institutions. Realising the importance of training and R & D, the Third Convention of Public Enterprises held in January 1987 had recommended "At least 2% of the turnover of public enterprises should be set apart for R & D and management training". The HRD Policy Statement adopted in XV National Convention of Indian Society for Training and Development provided "In organised sector, companies spend a substantial part of their budgets on wages and salaries but allocate very small amount to train and develop their people. They should be urged to spend at least one per cent., of their total expenditure budget for human resources development. The public institutions and public sector enterprises are a major tool of development. They should take the lead in this respect". The sad fact is that a meagre/small percentage of money is spent on training. The percentages of total expenditure on training, though not comparable among themselves but illustrative of their being meagre, are CCL .01 to .02, HPF .001, RCF .01, NTC (TN&P) .004, NTPC 0.3 to 0.5 and BHEL .09.

12.22 Information on man management go to show that the respondents genuinely believe in basing their action on Theory 'Y' assumption, job enrichment, quality circle etc.,

'but' in most of the cases are not able to do so. These efforts have to be supported by organisation culture, system, manpower planning, career development, promotion policy and such other measures. In most of the cases, culture and system of work of the organisation does not permit them to create climate where rank and file are treated as root source of quality and productivity gain. The belief that extraordinary results can be achieved through ordinary persons if people at work are treated with dignity and respect, has to go bone deep. Every worker has to be seen as a source of ideas not just acting as a pair of hands. Such a climate calls for effective manpower planning both qualitatively and quantitatively (suggested by IISCO, KIOC, SAIL, HSL), simplification of procedures (HPF, NTC (IN&P), ONGC), job rotation and job enrichment (KIOC), job performance targets (IOC, ONGC, RCF, NTC (IN&P), NTPC), fair and objective promotion policy (SAIL, KIOC, HSL) and career development (ONGC).

Systems and Procedures

12.23 In diagnosing the problems in organisational functioning the systems and procedures are the first place to look for reasons why organisation does or does not get things done satisfactorily. There is an inherent tendency of

adding new procedures for solving the problems and reluctance to discontinue the existing ones, and thus making the system complex and companies unresponsive which, in turn, breeds lethargy and inertia. The high performing enterprises like IOC, ONGC, BHEL, RCF, HPF periodically review, evaluate, and update their systems and procedures. Considerable scope exists for simplification of systems and procedures for discarding the ones that have outlived their utility. IOC, ONGC and SAIL have the procedure to associate external agencies for reviewing the usefulness of existing systems and procedures.

12.24 There is awareness for the need to reduce paper work. The increase in paper work emanates from fear of censure in the minds of executives at all levels for any decision taken (however honestly and in the best interests of the organisation). It is believed that long notes explaining all aspects in details, and having the formal sanction of the seniors/corporate body/government would save them from embarrassment and harassment later. Excessive paper work retards efficiency. High performing companies attempt to make things simple and reduce paper work. The administrative ministry and the company head office have issued directives to reduce paper

work, but further concerted efforts are required to be made in this regard particularly in areas like redressal of grievances, suggestion system, day-to-day operation, rectification of machine breakdown, as suggested by IRE, CCL, NTPC, ONGC, BHEL, RCF, KIOC, IISCO and HSL.

12.25 Among the various systems, improvements are called for particularly in MIS for strengthening information base for investment planning as suggested by IISCO; Production Planning and Control System for improving capacity utilisation in most of enterprises; system for quality adherence and customer satisfaction in products having monopoly, near monopoly and sheltered markets; internal audit making it a collaborative effort through technical audit to improve efficiency as prevailing in IOC, NTPC, BHEL, ONGC and HPF; and Vigilance System making it both preventive and punitive as in NTPC, IOC, CCL, RCF, HPF, SAIL and IISCO.

Policy Guide Lines

12.26 By definition, excellence implies that only a small number of managers will try new ideas to get extraordinary work from average persons. A great majority of the executives will settle for reasonable level of performance. Excellence has also a time dimension. What was 'excellence' yesterday

is now an accepted standard of performance. Despite complaints of waste and inefficiencies, ups and downs, and workers' complaints, infinite justifiable, sensible and sane reasons can be found for the current level of performance. Managerial excellence calls for all round drive to obtain voluntary commitment for action at mundane level of details in areas of corporate culture shared by people at work, transformational approach of leadership in management style, meticulous objective planning and strategy determination, divisionalisation, care of people and their development, and simplification of systems and procedures. Policy guidelines of operational significance will emerge ^{and} from various findings in subject chapters ^{and} above synthesis of findings.

Management Improvement Training Programmes

12.27 The training programmes must be organisation need based. No single prescription can be given in this regard. Two essential features, however, in the design of effective management training can contribute to achieve desired business results.

i) Training must start at the top and cascade down using senior managers as trainer. Without total commitment

from senior management team no managerial excellence culture is possible. Using senior managers as trainers reinforces the manager's commitment, adds power to the message and causes real change, not hollow rhetoric.

ii) Train from bottom up in core quality and operational skills using statistical techniques. Managers on shop floor need to know what is going on and their part in it. They need training in front-line service operational and human skills, and techniques. Once they find their managers truly committed to the process, whole hearted backing to these programmes flow from majority of employees. This approach requires short, intensive training courses, separated by a month or so, when senior managers return to work to implement the lesson of the course with their own management team. They arrive at next course to discuss their successes and problems before moving on.

Areas of Further Research

12.28 Specific areas of research will flow from various above findings and from specific requirements of the organisation. Broadly, two types of research studies can give handsome dividends in improving performance. These are:

(i) Comparative Studies of Comparable Systems; and (ii) Micro Level Studies of an Enterprise.

(i) Comparative Studies have potentialities of identifying lessons of 'Learning Curve' or 'Experience Curve' for cost effectiveness. In areas like project implementation as in NTPC, a comparative study of systems of project planning and implementation of similar nature of projects with varying levels of performance in terms of schedule and budget adherence on aspects like techniques used for resources planning and monitoring, contract planning and its scope of work, foreign collaboration, can be very useful.

(ii) The Micro Level Studies for developing result oriented work culture and identifying areas of cost reduction particularly in products which have monopoly, near monopoly and sheltered market and which are subject to administered prices; simplification of systems; multidisciplinary approach to vigilance and internal audit; and grievances procedure, will help in achieving exceedingly rich benefits even from limited research study funds.

OVERALL AND INDIVIDUAL INDICES RANKS OF 146 PRODUCTION ENTERPRISES
 (Computed from 1974-75 to 1983-84 Performance Data)

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Name of the Enterprise	Rank	Number on Individual Indices					Overall all Rank
		Sales/ Capital Employed	EBIT/ Capital Employed	Average Sales Value Added/ Gross Assets	Inter-Resou-rces Generation	Annual Growth in Net Worth	
1	2	3	4	5	6	7	9
STEEL							
1. Ferro Scrap Nigam Ltd.	109	18	12	80	30	37	17 2
2. IISCO Ujjain Pipe & Foundry Co. Ltd.	50	35	74	81	93	132	74 33
3. Sponge Iron India Ltd.	184	130	76	186	198	32	110 103
4. Steel Authority of India Ltd.	118	123	113	180	186	121	103 106
5. Indian Iron & Steel Co. Ltd.	52	168	157	154	127	212	157 121
6. Mishra Dhatu Nigam Ltd.	198	159	197	204	14	154	138 129

Name of the Enterprise	Rank Number on Individual Indices						Overall Rank	
	Sales/ Capital Employ- ed	EBIT/ Capital Employ- ed	Average Sales Added/ Gross Assets	Inter- nal Resou- rces Gen- eration	Aver- age Annu- al Growth	EAT/ Net Wor- th		
1	2	3	4	5	6	7	8	9

MINERALS AND METALS

7. Indian Rare Earths Ltd.	151	47	16	83	129	50	60	32
8. Manganese Ore(India) Ltd.	86	46	54	29	194	125	66	44
9. Neyveli Lignite Corporation Ltd.	175	91	41	175	65	52	73	57
10. Hindustan Zinc Ltd.	166	84	38	143	145	70	81	66
11. Pyrites, Phosphates & Chemicals Ltd.	177	107	46	85	131	106	83	67
12. Bharat Gold Mines Ltd.	30	184	149	138	76	26	97	68
13. Bharat Refractories Ltd.	179	172	183	141	27	10	122	83

Name of the Enterprise	Rank	Number on Individual Indices							Overall Rank
		EBIT/ Sales/ Capital Employ- ed	EBIT/ Capital Sales Employ- ed	Average Value Added/ Gross Assets	Inter- nal Resou- rces	Average Annual Growth	EAT/ Net Worth	Gener- ation	
1	2	3	4	5	6	7	8	9	
14. Mineral Dev. Corpn. Ltd.	157	119	98	174	113	129	87	91	
15. Uranium Corp. of India Ltd.	150	132	119	156	144	122	86	101	
16. Hindustan Copper Ltd.	168	141	127	172	136	131	106	112	
17. Bharat Aluminium Co. Ltd.	176	158	182	193	83	165	127	131	
18. Kudremukh Iron Ore Co. Ltd.	203	176	207	201	24	157	144	134	
19. India Fire Bricks & Insulation Co. Ltd.	128	175	211	166	192	151	138	139	
COAL									
20. Central Coalfields Ltd.	146	76	53	107	39	68	60	35	

Name of the Enterprise	Rank	Number on Individual Indices						Overall Rank
		EBIT/ Capital Employed	EBIT/ Capital Employed	Average Sales Value	Annual Resou-	Average	EAT/ Net Worth	
Sales/ Capital Employed	EBIT/ Capital Employed	Added/ Gross Assets	Resources in Net Worth	Growth Generation	Net Worth			
1	2	3	4	5	6	7	8	9
21. Coal India Ltd.	205	138	133	142	26	39	101	73
22. Western Coalfields Ltd.	123	106	101	120	49	193	105	76
23. Eastern Coalfields Ltd.	72	201	186	67	60	187	161	104
24. Bharat Coking Coal Ltd.	100	183	170	112	47	204	158	110
POWER								
25. National Thermal Power Corpn. Ltd.	194	121	20	199	1	30	103	56
26. National Hydroelectric Power Corpn. Ltd.	199	125	17	192	2	31	107	58
PETROLEUM								
27. OIL India Ltd	45	2	15	95	21	22	40	1

Name of the Enterprise	Rank Number on Individual Indices						Over-all Rank	
	Sales/ Capital Employed	EBIT/ Capital Employed	EBIT/ Sales	Average Value Added/ Gross Assets	Internal Resources Generation	Average Annual Growth in Net Worth		
1	2.	3	4	5	6	7	8	9
28. Bharat Petroleum Corpn. Ltd.	10	21	124	54	42	81	38	6
29. Lubrizol India Ltd.	35	14	47	41	43	79	29	8
30. Indo Burmah Petroleum Co. Ltd.	2	16	132	61	62	95	33	9
31. Hindustan Petroleum Corp. Ltd.	15	38	123	79	46	74	44	12
32. Indian Oil Corpn. Ltd.	12	24	120	74	90	87	34	15
33. Oil & Natural Gas Commission	143	26	13	159	43	35	26	16
34. Hydro Carbons (India) Ltd.	18	1	14	86	206	58	74	20
35. Indian Oil Bending Ltd.	89	28	32	128	124	105	48	37

Name of the Enterprises	Rank Number on Individual Indices						Overall Rank	
	Sales/ Capital Employed	EBIT/ Capital Employed	Average Sales Value Added/ Gross Assets	Internal Resources Generation	Average Annual Growth in Net Worth	EAT/ Net Worth		
1	2	3	4	5	6	7	8	9
36. Cochin Refineries Ltd.	11	32	130	155	151	84	31	41
37. Madras Refineries Ltd.	14	42	125	146	170	130	58	61
38. Bongaigaon Refinery & Petrochemicals Ltd.	133	126	161	184	33	124	93	87
CHEMICALS, FERTILISERS AND PHARMACEUTICALS								
39. Southern Pesticides Corporation Ltd.	152	71	22	105	37	13	81	24
40. U.P. Drugs & Pharmaceuticals Co. Ltd.	51	145	67	69	204	141	15	27
41. Sambhar Salts Ltd.	78	31	31	135	126	24	88	29
42. Rashtriya Chemicals & Fertilisers Ltd.	98	62	61	144	59	49	73	34

Name of the Enterprise	Rank Number on Individual Indices					Overall Rank
	Sales/ Capital Employ- ed	EBIT/ Capital Employ- ed	EBIT/ Sales Value Added/ Gross Assets	Average Annual Resou- rces in Gen- eration	Inter- nal Growth in Net Wor	
1	2	3	4	5	6	7
2	70	81	119	74	66	78
3. Hindustan Insecticides Ltd.	84	70	81	119	74	38
44. Indian Petroleum Chemicals Corp. Ltd.	148	69	34	149	56	78
45. Karnataka Antibiotics & Pharmaceuticals Ltd.	101	50	42	20	207	112
46. Madras Fertilisers Ltd.	55	52	72	127	200	100
47. Hindustan Organic Chemicals Ltd.	137	59	33	151	138	92
48. Cement Corporation of India Ltd.	159	112	86	168	22	57
49. National Fertilisers Ltd.	163	102	69	179	71	119
					8	81
					7	72
					9	

Name of the Enterprise	Rank Number on Individual Indices					Over-all Rank
	Sales/ Capital Employ- ed	EBIT/ Capital Employ- ed	EBIT/ Sales Value	Average Inter- nal Resou- rces Added/ Gross Assets	Average Annual Growth in Net Worth	
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5	6	7	8	9
50. Smith Stanastreet Pharmaceuticals Ltd.	82	131	128	30	191	149
51. Indian Drugs & Pharmaceuticals Ltd.	131	122	110	158	171	60
52. Hindustan Salts Ltd.	178	120	70	103	161	133
53. Hindustan Anti- biotics Ltd.	116	157	152	163	108	62
54. The Fertiliser Corporation of India Ltd.	124	171	178	187	102	5
55. Coa Antibiotics & Pharmaceuticals Ltd.	174	142	126	169	8	150
56. The Fertilisers & Chemicals (Travancore) Ltd.	121	136	138	153	135	113
						106
						99

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Name of the Enterprise	Rank	Number on Individual Indices	Overall Rank		
	Sales/ Capital Employ- ed	EBIT/ Capital Employ- ed	Average Sales Value Added/ Gross Assets	Inter- nal Resou- rces Gen- eration	EAT/ Annual Growth in Net Worth
1	2	3	4	5	6
2	7	8	9		
57. Bengal Chemicals & Pharmaceuticals Ltd.	113	165	156	122	86
58. Hindustan Fertiliser Corporation Ltd.	3	212	177	188	185
59. Indian Medicines & Pharmaceuticals Corp. Ltd.	201	154	191	202	31
60. Punjab Maize Products Ltd.	196	181	210	203	9
61. Rajasthan Drugs & Chemicals Ltd.	129	150	155	211	212
62. Orissa Drugs & Chemicals Ltd.	189	174	195	190	173
63. Maharashtra Antibiotics & Pharmaceuticals Ltd.	188	167	202	196	207

Name of the Enterprise	Rank	Number on Individual Indices						Overall Rank
		Sales/ Capital Employed	EBIT/ Capital Employed	Average Sales Value Added/ Gross Assets	Internal Resources Generation	Annual Growth in Net Worth	EAT/ Net Worth	
1	2	3	4	5	6	7	8	9

HEAVY ENGINEERING

64. The Lagan Jute Machinery Co. Ltd. 95 29 35 33 118 111 63 25

65. Bridge & Roof Co. (India) Ltd. 23 128 141 31 40 18 114 28

66. Bharat Heavy Plates & Vessels Ltd. 110 82 82 111 104 55 63 45

67. Bharat Heavy Electricals Ltd. 99 54 48 94 165 104 48 46

68. Triveni Structural s 85 147 134 102 162 1 129 69

69. Tungabhadra Steel Products Ltd. 154 95 49 63 152 164 101 71

70. Bharat Wagon & Engineering Co. Ltd. 115 146 146 72 28 156 170 82

71. Burn Standard Co. Ltd. 79 173 165 40 81 188 138 88

Name of the Enterprise	Rank	Number on Individual Indices							Overall Rank
		Sales/ Capital Employed	EBIT/ Capital Employed	EBIT/ Sales	Average Annual Sales Value Added/ Gross Assets	Internal Resources Generation	Average Annual Growth in Net Worth	EBIT/ Net Worth	
1	2	3	4	5	6	7	8	9	
72. Bharat Process and Mechanical Engineers Ltd.	76	199	190	27	69	203	183	108	
73. Jessop & Co. Ltd.	126	137	135	91	160	183	133	109	
74. Braintwainite & Co. Ltd.	111	186	181	84	128	205	145	124	
75. Weighbird India Ltd.	22	203	167	64	210	194	184	127	
76. Mining & Allied Machinery Corpns. Ltd.	108	189	172	161	189	169	134	135	
77. Heavy Engineering Corp. Ltd.	165	170	168	173	184	191	133	142	
MEDIUM & LIGHT ENGINEERING									
78. Balmer Lawrie & Co. Ltd.	32	36	92	48	53	101	45	10	

Name of the Enterprise	Rank	Number on Individual Indices						Over-all Rank
		Sales/ Capital Employed	EBIT/ Capital Employed	EBIT/ Sales Value Added/ Gross Assets	Average Annual Resources	Inter- nal Growth in Net Worth	Average Annual Growth in Net Worth	
1	2	3	4	5	6	7	8	9
79. Andrew Yale & Co. Ltd.	106	80	77	42	25	36	68	13
80. Bharat Electronics Ltd.	104	41	36	101	107	16	45	18
81. Indian Telephone Industries Ltd.	120	57	39	50	103	73	49	26
82. H.M.T. Ltd.	105	53	44	110	95	82	36	30
83. Praga Tools Ltd.	145	85	60	116	70	21	55	36
84. Instrumentation Ita.	94	56	57	62	133	114	58	39
85. Hindustan Cables Ltd.	91	60	64	117	117	96	53	43
86. Semi Conductor Components Ltd.	200	105	4	198	3	12	110	49
87. Hindustan Printers Ltd.	136	66	43	77	139	117	63	51

Name of the Enterprise	Rank Number on Individual Indices						Overall Rank	
	Sales/ Capital Employed	EBIT/ Capital Employed	EBIT/ Sales	Average Value Added/ Gross Assets	Internal Resources Generation	Annual Growth in Net Worth		
1	2	3	4	5	6	7	8	9
88. Rajasthan Electronics & Instruments Ltd.	36	44	93	140	179	138	36	55
89. Electronics Corp. of India Ltd.	93	87	79	92	159	103	81	63
90. Bharat Pumps & Compressors Ltd.	160	124	108	147	64	6	93	64
91. Richardson & Cruddas(1972) Ltd.	83	113	112	68	140	174	116	79
92. Indo Nippon Precision Bearings Ltd.	140	77	62	132	211	160	101	93
93. Biecco Lawrie Ltd.	41	183	166	51	106	186	147	94
94. Bharat Brakes & Valves Ltd.	117	166	159	89	17	198	155	98
95. National Instruments Ltd.	103	192	179	96	122	172	140	116

Name of the Enterprise	Sales/ Capital Employ- ed	EBIT/ Capital Employ- ed	Rank	Number on Individual Indices			Average EAT/ Net Worth	Overall Rank
				EBIT/ Sales	Average Value Added/ Gross Assets	Annual Growth in Net Worth		
1	2	3	4	5	6	7	8	9
96. Bharat Dynamics	114	196	176	124	193	175	108	132
97. Central Electro- nics Ltd.	187	164	204	131	154	134	128	138
TRANSPORTATION								
98. Bharat Earth Movers Ltd.	90	40	40	57	98	90	43	21
99. Mazagon Dock Ltd.	31	63	65	73	77	59	43	22
100. Goa Shipyard Ltd.	107	67	45	98	84	67	58	31
101. Hindustan Aeronau- ties Ltd.	156	99	59	133	83	34	44	47
102. Maruti Udyog Ltd.	172	27	6	106	178	137	81	65

Name of the Enterprise	Sales/ Capital Employ- ed	EBIT/ Capital Employ- ed	EBIT/ Sales Value Added/ Gross Assets	Inter- nal Resou- rces Gene- ration	Average Annual Growth in Net Worth	EAT/ Net Wor- th	Rank	Number on Individual Indices	Overall Rank						
							1	2	3	4	5	6	7	8	9
103. Cycle Corporation of India Ltd.	60	194	173	22	13	189	172	80							
104. Cochin Shipyard Ltd.	193	135	26	177	123	109	110	89							
105. Central Inland Water Transport Corpn. Ltd.	20	205	193	97	142	166	144	111							
106. Garden Reach Ship-builders & Engineers Ltd.	127	151	144	114	147	173	132	114							
107. Hindustan Shipyard Ltd.	141	152	174	129	205	123	39	119							
108. Scooters India Ltd.	202	55	180	160	91	208	146	126							
109. National Bicycle Corpn. of India Ltd.	16	209	193	46	208	202	184	128							

Name of the Enterprise	Rank Number on Individual Indices						Overall Rank	
	Sales/ Capital Employed	EBIT/ Capital Employed	EBIT/ Sales	Average Value	International	Average Annual Growth in Net Worth		
1	2	3	4	5	6	7	8	9
CONSUMER GOODS								
110. Hindustan Photo Films Mfg. Co. Ltd.	67	48	66	93	79	19	45	11
111. Hoocly Printing Co. Ltd.	33	39	99	49	19	135	66	14
112. Brushware Ltd.	27	34	109	28	172	23	55	19
113. Modern Food Industries (India) Ltd.	42	61	97	108	130	120	65	48
114. Hindustan Latex Ltd.	92	81	103	123	121	94	60	60
115. National Newsprint & Paper Mills Ltd.	96	110	107	165	157	118	87	84
116. National Jute Manufacturers Corp. Ltd.	6	211	187	71	32	185	136	92

Name of the Enterprise	Rank Number on Individual Indices						Overall Rank	
	Sales/ Capital Employ- ed	EBIT/ Capital Employ- ed	EBIT/ Sales Value Added/ Gross Assets	Average Inter- nal Resou- rces	Average Annual Growth in Net Worth	EBIT/ Net Worth		
1	2	3	4	5	6	7	8	9
117. Tannery & Footwear Corp. of India Ltd.	112	191	188	100	87	159	146	113
118. Hindustan Paper Corporation Ltd.	190	134	117	167	209	71	115	115
119. Rehabilitation Industries Corpn. Ltd.	211	6	205	148	163	158	141	123
120. Mandya National Paper Mills Ltd.	119	160	158	162	201	170	119	133
121. Artificial Limbs Mfg. Corpn. of India Ltd.	195	180	208	194	36	176	154	136
122. Nagaland Pulp & Paper Co. Ltd.	207	179	212	212	23	173	145	137
123. Bharat Ophthalmic Glass Ltd.	158	200	201	191	197	163	144	145

Name of the Enterprise	Rank Number on Individual Indices						Overall Rank
	Sales/ Capital Employed	EBIT/ Capital Employed	Average Sales Value	Annual Resou-	Average EAT/ Net Growth in Net Worth	Annual Net Worth	
				Added/ Gross Assets	Resources Generation		
1	2	3	4	5	6	7	8 9
AGRO BASED PRODUCTS							
124. Rajgarh Tea Co. Ltd.	48	10	25	59	63	86	40 3
125. Banerhat Tea Co. Ltd.	49	20	52	70	15	65	73 4
126. Basmatia Tea Co. Ltd.	57	9	18	90	44	97	45 5
127. Andaman & Nicobar Islands Forests & Plantation Dev. Corpn. Ltd.	149	23	7	19	73	61	54 7
128. Murphulani (ASSAM) Tea Co. Ltd.	62	19	30	130	35	115	56 17
129. Hoolungooree Tea Co. Ltd.	88	68	78	118	18	127	86 40
130. National Seeds Corpn. Ltd.	34	74	114	134	132	99	74 54

Name of the Enterprise	Rank	Number on Individual Indices						Overall Rank
		Sales/ Capital Employed	EBIT/ Capital Employed	EBIT/ Sales	Average Value Added/ Gross Assets	Internal Resources Generation	Average Growth in Net Worth	
1	2	3	4	5	6	7	8	9
131. State Farms Corpn. of India Ltd.	122	114	100	176	141	20	97	70
132. North Eastern Regional Agricultural Marketing Corpn. Ltd.	181	116	51	152	180	140	95	102
133. The HMT Textiles Co. Ltd.	19	205	185	75	174	209	160	122
TEXTILES								
134. NTC (Tamil Nadu & Pondicherry) Ltd.	74	89	95	60	68	7	78	23
135. NTC (Gujarat) Ltd.	58	109	113	109	110	89	81	59
136. NTC (Andhra Pradesh, Karnataka, Kerala & Mahe) Ltd.	66	144	139	76	137	107	120	74
137. NTC (South Maharashtra) Ltd.	59	145	140	55	58	195	138	75

Name of the Enterprise	Rank Number on Individual Indices						Overall Rank	
	Sales/ Capital Employed	EBIT/ Capital Employed	EBIT/ Sales	Average Added/ Gross Assets	Interest/ Resou- rces	Average annual Growth in Net Worth		
1	2	3	4	5	6	7	8	9
138. National Textile Corpn. Ltd (Holding Company)	192	108	11	125	188	85	94	77
139. NTC (Madhya Pradesh) Ltd.	44	185	162	45	52	167	149	78
140. NTC (Uttar Pradesh) Ltd.	5	207	160	78	82	196	161	95
141. NTC (Delhi, Punjab & Rajasthan) Ltd.	56	161	137	131	80	177	163	100
142. NTC (Maharashtra North) Ltd.	69	162	153	126	72	211	146	105
143. NTC (West Bengal, Assam, Bihar & Orissa) Ltd.	70	202	189	113	50	171	151	107
144. The Elgin Mills Co. Ltd.	212	3	171	88	149	192	192	117

Name of the Enterprise	Rank Number on Individual Indices						Overall Rank
	Sales/ Capital Employ- ed	EBI I/ Capital Employ- ed	EBI IV/ Sales Added/ Gross Assets	Average Sales Value Added/ Gross Assets	Inter- nal Resou- rces in Net Assets	Average Annual Growth in Net Worth	
1	2	3	4	5	6	7	8
2	3	4	5	6	7	8	9
145. The British India Corporation Ltd.	102	182	169	82	109	210	166
146. National Handloom Development Corpn. Ltd.	209	197	136	207	181	139	154

APPENDIX II

INDIAN RARE EARTHS LIMITED

Introduction

1. Indian Rare Earths Limited was incorporated on August 18, 1950 as a private limited company jointly owned by Government of India and the then Government of Travancore-Cochin. In 1963, the shares of the State of Travancore-Cochin were handed over to the Govt. of India and Indian Rare Earths Ltd (IRE) became a full-fledged Central Government undertaking under the Deptt. of Atomic Energy. In 1952, the Company started with a Rare Earths Plant at Alwaye, to process Monazite and to produce a wide range of rare earth products. In 1965, it took over, at the instance of the Government, the mineral sand industry at Manavala-Kurichi in Tamil Nadu and at Chavera in Kerala; and integrated them to form the minerals division with its local office at Quilon. In addition to this, the company is setting up a Rs. 110/- crores project, known as Orissa sands complex (OSCC), at Chatarpur in Orissa, for the purpose of treating beach sand minerals available at Orissa for production of synthetic rutile, among others.

Objectives

2. The current objectives of the company are as under:

western coast of Kerala and Tamil Nadu and coast of Orissa and separate the minerals scheduled under the Atomic Act, 1960, such as *Energy* ilmenite, rutile, zircon, monazite and leocoxine and other associated minerals such as sillimanite and garnet;

- ii) processing of monazite to obtain rare earth chloride, trisodium phosphate, and a compound containing uranium and thorium and separation of various other rare earth chemicals;
- iii) processing of thorium hydroxide on behalf of Department of Atomic Energy for manufacture of thorium nitrate, a basic raw material for production of gas mantle, thorium oxide (for nuclear applications) and production of crude uranium fluoride for BARC;
- iv) setting up of a Mineral Sands Complex (OSCOM Project) at Chatrapur, Orissa.
- v) operating and managing of Department of Atomic Energy's Thorium Plant at Trombay, on its behalf;
- vi) importing and marketing of the above products both in the international market and domestic market.

Production Performance

3. On the production front, declining quality of raw sand due to natural causes has posed serious problems with regard to quality of products and also the quantity produced. The company has initiated several measures to mitigate this problem. The construction work of the Orissa Sand Complex is almost on the verge of completion. The Dredge & Wet Concentrator (DWC) plant has already commenced operation. The dry mill too has been commissioned and 30000 MT of Ilmenite has been produced. The production of rare earths division is expected to improve due to better availability of power and water. The demand for diversified products like samarium, gadolinium, yttrium, and europium concentrates has picked up, and these value-added products are expected to add to the sales and profits of the company. In the case of the minerals division inadequate availability of raw sand is causing concern. Deep mining and setting up of wet concentrators are planned to augment the supply.

4. The capacity, production and percentage capacity utilisation for major products are given below:

Major Product	Unit	Capacity	Production*		
			1982-83	1983-84	1984-85
1	2	3	4	5	
Monazite	Tonnes	4200	3248 (77)	3040 (72)	3818 (91)
Ilmenite	Thousand Tonnes	209	153 (73)	134 (64)	153 (73)
Rutile	Tonnes	8760	5782 (66)	5500 (63)	7045 (80)
Zircon	Tonnes	12500	7983 (64)	8394 (67)	11501 (92)

* Percentage capacity utilisation ⁱⁿ parenthesis

5. The targets and actual production of main products from 1982-83 to 1984-85 are set out below:

(tonnes)

Main Products	1982-83		1983-84		1984-85	
	Targ.	Actual	Target	Actual	Target	Act.
	1	2	3	4	5	6
1. R.E. Chloride	N.A.	3464	4200	2879	4200	3607
2. Trisodium Phosphate	N.A.	4083	5350	3641	5300	4815
3. Ilmenite	N.A.	152938	162374	134476	240319	152594
4. Monazite	N.A.	3248	4142	3040	5595	3818
5. Zircon	N.A.	7983	10403	8394	10392	11501
6. Rutile	N.A.	5782	7127	5500	10168	7045
7. Synthetic Rutile	N.A.	-	-	-	5625	-

Selection Justification for In-depth Study

6. IRE secured the 32nd position among 146 production enterprises and first among the Minerals and Metals Industry Group on the basis of composite ranking on seven selected indices. Based on ten years performance data, it was included as one of the high performing enterprises.

Financial Status

7. The financial information on selected aspects is given below:

Item	(Rs lakhs)		
	1982-83	1983-84	1984-85
	1	2	3
1. Investment (Equity+Loan)	7074	8259	10317
2. Capital Employed (Net Fixed Assets + Working Capital)	2354	2299	3351
3. Net Worth	4434	5699	7456
4. Net Sales	1632	1589	1972
5. Gross Profit/ losses (-)	405	222	508

CENTRAL COALFIELDS LIMITED

Introduction

1. The Central Coalfields Ltd., was incorporated on 1st November, 1975 with the old mines of National Coal Development Corporation and certain taken over mines. The area of its operation covers Bokaro - Kargali and Hazari Bagh coalfields in Bihar, Talcher & Karanpura coalfields in Orissa, and Singrauli coalfields in M.P. Some small coalfields of Giridih and Palamu districts are also placed under CCL.

Objectives

2. The main objective of the Company is to produce and sell raw coal, washed coal and middlings, soft coke and hard coke.

Production Performance

3. It is difficult to lay down the production capacity of the Company even on year to year basis in view of the fact that there have been constant addition, modification and depletion of its numerous collieries. The data on target

and actual production are given in table which follows:

Main Product	Year	Targets	(million tonnes)	
			Actual	Percentage of target achieved
	1	2	3	4
Coal	1982-83	N.A.	33.01	-
	1983-84	36.00	36.75	101
	1984-85	38.50	39.00	104

Selection Justification for In-depth Study

4. On the basis of composite ranking on seven selected measures of long term superiority CCL was ranked first among the coal industry group and 35th among all the production enterprises. It was included among the high performing enterprises as all the criteria for the purpose were satisfied.

Financial Status

5. The financial information on the selected aspects is given below:

Item	(Rs. lakhs)		
	1982-83	1983-84	1984-85
	1	2	3
Investment (Equity+Loan)	25882	26060	26285
Capital Employed (Net Fixed Assets + Working Capital)	74141	88487	90870
Net Worth	49499	55696	56874
Net Sales	55714	63355	78538
Gross Profits	7904	9608	5766

Projects Completed

6. A large number of coal development projects were undertaken by CCL. Most of these have been completed, the others are nearing completion. In 1984-85, the company has completed 9 coal mining projects and 2 coal handling plants. As on 31st March, 1985, the company had in hand 31 coal mining projects, 14 major and 15 mini coal handling plants and 11 non-mining projects in various stages of execution. The projects completed, however, showed considerable schedule slippage and cost over-runs.

NATIONAL THERMAL POWER CORPORATION LIMITED

Introduction

1. National Thermal Power Corporation Ltd. (NTPC) was set up in November 1975. The development of the power in the country earlier has been predominantly through State Electricity Boards established under the Electricity (Supply) Act, 1948. To supplement the efforts of the States and to promote power development on a regional basis the Government of India decided to take up a programme for establishment of large hydro and thermal power stations. NTPC was assigned the role of planning, promoting and organising integrated development of thermal power in the country.

Objectives

2. The main objectives of NTPC are to plan, promote, organise an integrated and efficient development of thermal power in all its aspects including planning, investigation, research, design and preparation of preliminary, feasibility and detailed project reports; construction, generation, operation and maintenance of Thermal Power Stations and Projects and transmission, distribution and sale of power generated. The first stage of development envisaged setting up of four super thermal power stations at Singrauli, Korba, Ramagundam and Farakka along with 400 kv. transmission lines. In April,

1978, NTPC was given the responsibility of managing the Bardarpur Thermal Power Station. During 1982, the Corporation was entrusted with the setting up of two more super thermal power stations viz. VindhyaChal and Rihand. A number of new projects are also under different stages of development e.g. Talcher, Pench. According to NIPPC's Corporate Plan for 1985-2000, it will have 14 stations in operation by the year 2000 with a total of 82 units (41 units of 50 MW, 38 units of 200/210 MW and 3 units of 100 MW). With the synchronisation of the fifth 200 MW Unit of Singrauli on schedule in Feb. 1984 Stage I of the project was completed. Similarly, Stage I of Korba comprising 3x200 MW has also been completed. The first 200 MW unit of Ramagundam Station was synchronised in a record time of 44 months as against the schedule of 48 months; the second unit of this station has also been commissioned. In 1984-85, all the eleven commissioned units (5x200 MW at Singrauli, 3x200 MW at Korba and 3x200 MW at Ramagundam) worked at an average load factor of 58% as against the All India average of about 50%.

Selection Justification For In-depth Study

3. NTPC was selected as a special case even though it did not fulfil one of the criteria of being in operation

for at least 10 years. It falls into high performing category according to criteria chosen for ranking the enterprises. This undertaking ranks 56 among 146 production enterprises on the basis of composite ranking on all the 7 indices. Since the power sector was remaining unrepresented without NTPC, it was decided in consultation with Bureau of Public Enterprises to include NTPC for the study.

Financial Status

4. The financial information on selected aspects is given below:

Item	(Rs. in lakhs)		
	1982-83 1	1983-84 2	1984-85 3
i. Investment	149801	215312	311909
ii. Capital Employed (Net fixed assets+ Working Capital)	24779	86673	143556
iii. Net Worth	118283	164865	222503
iv. Net Sales	3521	14646	33692
v. Gross Profit	1108	6802	13677

Manpower Information

5. The information on different categories of employees and their targetted figures are given below:

Item	1982-83	1983-84 (Target)	1984-85 (Target)
1	2	3	4
i. Managerial	2067	3367	3912
ii. Supervisory	1214	2135	2698
iii. Other Employees (excluding casual workers)	3458	7890	9284

INDIAN OIL CORPORATION LTD.

Introduction

1. The Indian Oil Corporation Ltd. (IOC) was established on 1st September, 1964 by amalgamating the Indian Refineries Ltd (established in 1958) and the Indian Oil Company Ltd (1959). On 14th October, 1981 it also acquired the refining and distribution operations of the Assam Oil Company Ltd. It has the following three Divisions:

- i) Refineries and Pipelines Division (with Headquarters at Delhi) - erstwhile Indian Refineries Ltd.
- ii) Marketing Division (with Headquarters at Bombay)
- iii) Assam Oil Division (with Headquarters at Digboi) established in October, 1981.

2. The Refineries and Pipelines Division looks after the production operations of the refineries at Gauhati, Barauni, Gujarat, Haldia and Mathura, and the pipelines network of 1219 kms for transportation of crude oil and 2631 kms for transportation of petroleum products. With around 50% (1984-85) of market share, the Marketing Division of IOC deals with the distribution of petroleum products through installations, depots and aviation fuel stations spread through out the country. Besides, the IOC has retail outlets, dealerships and distributorships for marketing of petroleum products.

The Assam Oil Division (AOD) has both Refining and marketing operations. The refinery of the Division is situated at Digboi (established in 1893).

3. In addition, the IOC has a Research and Development Centre set up in 1965 at Faridabad and a fully owned subsidiary, Indian Oil Blending Ltd (which manufactures lubes and greases). The R & D Centre undertakes research in developing indigenous formulations for manufacture of lubricants replacing imports, in improving the refining process and evolving methods to conserve oil.

Objectives

4. Originally the IOC was established with the main objective of co-ordinating and controlling the refining and distribution activities of the two amalgamating companies. In the "Corporate Perspective Plan IOC(1995)" and the "Corporate Long Range Plan 1985-90", the objectives and obligations of the IOC as approved by the Government have been given in details. Certain selected Corporate, Divisional and Functional Objectives are derived from the expectations of "Stake holders" consisting of IOC's customers, dealers, suppliers, creditors, public, government

and employees. The five major objectives relate to -

(i) Business Mission; (ii) Profitability; (iii) Growth; (iv) Image; and (v) Vitality (keeping pace with latest developments, diversification, manpower development).

Production Performance

5. The data on capacity and its utilisation according to different plants are as under:

Plant name/ location	Year of establi- shment (commis- sioning)	Installed Capacity 1983-84 (million tonnes)	Capacity utilisation (Percentage)		
			1981-82	1982-83	1983-84
1	2	3	4	5	6
• Guwahati	January 1962	0.85	88	94	102
• Barauni	July 1964	3.30	92	93	88
• Koyali (Gujarat)	Oct. 1965	7.30	96	97	100
• Haldia	Jan. 1975 (fuel sector)	2.50	91	100	103
• Mathura	Jan. 1982	6.00	-	64	87
• Digboi	1893	0.53	99	100	104
Total	-	20.45		87	95

6. The production targets and their achievements are set out below:-

Main Products	M. Tonnes					
	1982-83		1983-84		1984-85	
	Target	Actual	Target	Actual	Target	Actual
1	2	3	4	5	6	7
Crude through- put	19.73	17.83	19.44	19.46	20.30	20.57

Selection Justification for in-depth Study

7. IOC scored a composite rank of 15 among 146 production enterprises and merited selection as a high performing enterprise on all the counts. The enterprise has been in operation for more than 10 years. During 1983-84 and 1984-85, among 146 production enterprises the IOC was at the first and second positions in respect of sales and gross profit respectively.

Financial Status

8. The financial information on important aspects is given below:-

Item	(Rs. crores)		
	1982-83	1983-84	1984-85
1	2	3	4
1. i) Investment (Equity+Loan)	419	605	621
ii) Gross Block	1172	1322	1492
2. Capital employed	1099	1285	1081
3. Net Worth	695	760	809 (RE)
4. Net Sales	8730	9131	9792
5. Gross Profit	223	223	246

Manpower Information

9. The number of persons employed in 1983-84 among different categories is as under:

1. Managerial	7376
2. Supervisory	
3. Other employees (including casual workers)	21734
Total	29110

Pricing Policy

10. The recommendations of the Oil Prices Committee(OPC) made in Nov. 76, and as accepted by the Government, continued to form the basis for the pricing of petroleum products. The prices of these products are regulated/administered in line with economic costs so as to cover total costs and bring about a fair margin of return by means of general improvement in efficiency and greater utilisation of capacity. Under the arrangement, retention prices are fixed by the Government for all major petroleum products for each refinery based on updated costs and providing for a return at 15% on capital employed. Similarly, retention margins are fixed for the marketing and pipeline operations. For the consumers, ex-storage point prices have been fixed at uniform rates for petroleum products at all refineries. Under increases ordered in the basic ceiling selling prices of all petroleum products in March 1985, prices of all petroleum products were increased by 15% except HSD in which case it was 8%. Subsequently, w.e.f. 25.3.85, the prices of kerosene oil and HSD were reduced to provide relief to vulnerable sections of the society and farming community. Consumer prices of kerosene oil continued to be fixed and enforced by the State Governments under powers given to them under the

Essential Commodities Act, 1955. The prices of ATF (Aviation Turbine Fuel) at international air fields and of furnace oil, diesel oil to ocean-going vessels are reviewed from time to time on the basis of prices prevailing at neighbouring countries and prices of imported products in the international market. However, the existing costs and pricing arrangements and other related matters (e.g. rate of return on capital employed, feasibility of introduction of uniform prices, charging differential prices related to end use etc) are under review by the Government in the light of the recommendations of the report of the Oil Cost Review Committee.

Research and Development

11. The R & D Centre of IOC at Faridabad set up at a cost of Rs. 6.9 crores started working in the middle of 1973. The Centre has been set up with the primary objective of developing know-how for the manufacture, blending, formulation and marketing of lubricants, greases and speciality products.

12. The R & D Centre has undertaken the second phase for setting up facilities for development of fuel/energy

efficient lubricants, high performance lubricants, component based additive systems in place of packages, new generation lubricants, marine oil formulations and study of low temperature flow proportions of diesel oil and crude oil. The R & D Centre supplies formulation know-how for all the products blended and manufactured at the IOC's three blending plants at Bombay, Calcutta and Madras.

13. Some of the major research programmes in the VII plan relate to fuel efficient multigrade engine oil for railways, marine diesel engine oil, high performance gasoline engine oils, super high performance diesel engine oil, synthetic lubricants and greases, selected additives and refinery processes.

Strengths and Weaknesses

14. For effective and successful working an organisation needs to carefully assess its own strengths and weaknesses both internal and external. The strengths may, for example, be in regard to efficient technological base, established corporate image, effective infrastructural support and stable industrial relations. The weaknesses may arise from lack of specific functional skills, organisational conflicts, inadequate systems and procedures.

15. The main areas of strength identified by the IOC are:

- i) Enterprise owned by the Government of India, with commitments to national goals and good co-ordination with Government Departments and agencies of oil producers and customers.
- ii) Market leader in petroleum sector and established and favourable corporate image.
- iii) Good organisational set up, adequate skilled/trained manpower, training and development facilities and stable industrial relations.
- iv) Good infrastructure support, vast facilities network and dealer/consumer net work.
- v) R & D facilities with modern laboratory/equipments for petroleum research.
- vi) Strong background of the entire range of oil company operations on an integrated basis covering refining, pipeline technology, marketing including shipping and trading, considerable operational, shipping, finance and legal experience for implementation of international trading contracts.
- vii) Strong financial position in regard to liquidity and internal resources, and established accounting systems and procedures.

16. The weaknesses presently visualised by IOC are indicated below:

- i) Due to historical reasons, IOC's growth in MS (Motor Spirit) retail trade has not been

commensurate with that of other products. During 1984-85, the market share of IOC was about 35% as against 59% for all petroleum products taken together. As a result of this, distribution of retail net work is not fully in line with demand centres.

- ii) Gaps in Communication and Management Information Systems have been perceived and action plans are being drawn up for improvement.
- iii) Career and succession planning is inadequate.
- iv) Improvements are needed in areas relating to strategic planning, project monitoring, pace of computerisation/automation, inter divisional co-ordination and integrated IOC corporate culture.

OIL & NATURAL GAS COMMISSION(ONGC)

Introduction

1. Oil and Natural Gas Directorate was set up under the Government of India in 1956. It was later converted to Oil and Natural Gas Commission (ONGC) as a statutory body by an Act of Parliament in 1959. Hydrocarbons India Ltd is a wholly owned subsidiary Company of ONGC, which was set up to participate in exploration and production of crude oil in Iran. Keeping in view the long term objectives, further growth and challenges, the ONGC organisation was restructured during 1984-85 on a common basis approach and concept of Functional Business Groups with centralised policy making and decentralised administration with commercial relationships among these groups viz., Exploration, Drilling, Operational and Technical. The Research and Development Institutes also act as profit Centres. To make these Business Groups more effective the powers of various authorities were enhanced by revising the Book of Delegated Powers. The re-organisation aimed to promote specialisation to achieve excellence in the various technical and other disciplines, ensure cost consciousness and optimum utilisation of human and material resources. Since this reorganisation did not prove to be completely successful the Govt. restructured

the ONGC into an apex body having three autonomous regional divisions to be headed by Regional Executive Directors. The Regional Executive Directors are fully responsible for exploration, drilling and production of Oil and Gas in respective on-land regions. The Bombay off-shore area constitutes the fourth division. The Business Group concept has now been shifted to the Regional Divisions which will have a greater degree of autonomy as well as accountability for performance. The Members in the apex body of the ONGC will now be involved mainly in policy matters, co-ordination and inter-action with international companies.

Objectives

2. The main objectives of ONGC are exploration and exploitation of hydrocarbons and production, marketing and transportation of crude oil and natural gas. Other important objectives as stated by ONGC are to build up relevant technology and scientific knowledge, to maximise cost effectiveness in all its areas of activities and to constantly expand and update knowledge by intensifying basic and applied research.

Production Performance

3. The concept of capacity and its utilisation is not relevant in the case of ONGC. The performance in terms of production, surveys and drilling operations is as follows:-

Item	Unit	1981-82		1982-83		1983-84	
		Actual	Budget Estimate	Actual	Budget	Actual	
		1	2	3	4	5	6
1. Crude Oil (Production)							
1.1 on-shore	Million tonnes	5.20	5.80	5.35	6.25	5.76	
1.2 off-shore	Million tonnes	7.98	12.11	12.88	17.00	17.39	
	Total of(1)	13.18	17.91	18.23	23.25	23.15	
2. Natural Gas							
2.1 on-shore	Million m ³	1080	900	1113	868	738	
2.2 off-shore	"	1345	971	2357	1162	3259	
	Total of(2)	2425	1871	3470	2030	3997	
3. L.P.G. Sales (on-shore)	'000 tonnes	73	141	161	151	196	

Item	Unit	1981-82 Actual	1982-83		1983-84	
			Budget Estimate	Actual	Budget Estimate	Actual
1	2	3	4	5	6	
4. Surveys						
4.1 Geolo- gical (on-shore)	Party Years	12	12	10	12	12
4.2 Geophy- sical (on-shore)	"	-	45	41	45	40
4.3 Seismic- (off- shore)	'000 tonne kms	25	20	27	26	20
5. Drilling						
5.1 On-shore						
(a) Explora- tory	'000 mtrs.	211	134	120	182	132
(b) Develop- ment	" " " "	-	138	104	150	127
Total of (5.1)		211	272	224	332	259
 5.2 Off-shore						
(a) Explora- tory	'000 mtrs.	111	50	57	75	60
(b) Develop- ment	" " " "	-	116	105	184	149
Total of (5.2)		111	166	162	259	209

Selection Justification for In-depth Study

4. ONGC was selected in consultation with the Bureau of Public Enterprises as a high performing organisation for in-depth study in view of its relatively large volume of sales and assets. It had first position among the public enterprises from the point of view of Gross Block and Gross Profit in 1983-84 and third according to Net Sales over 1981-82 to 1983-84. The undertaking scored composite rank of 16 and has been in existence for more than 10 years and qualified itself as a high performing enterprise. Its selection was merited on more than 4 out of the 7 indices as a high performing one. Among petroleum group of enterprises numbering 12 the ONGC rank was 7.

Financial Status

5. The financial information on selected aspects is as under:-

Sl. No.	Item	(Rs. crores)	
		1982-83	1983-84
1. i)	Investment (Equity+Loan)	1956	2031
2 ii)	Gross Block	2785	3835
2.	Capital employed	2252	2875

(Rs. crores)

Sl. No.	Item	1982-83	1983-84
3.	Net Worth	1590	2376
4.	Net Sales	2376	3478
5.	Gross Profit	1270	1696

Manpower Information

6. The number of persons working in different categories is given below:

Category	1982-83	1983-84
1. Managerial & Supervisory	9232	11592
2. Clerical	3300	3646
3. Skilled	13060	14365
4. Others	51258	55528

Personnel Policy

7. Early in 1982-83, the Personnel Department identified important problems that required to be tackled on high priority. This was done by close interaction with various groups of employees, associations and Unions. Some of the more important problems identified were (i) inadequacy of manpower resources for several critical areas of operations; (ii) stagnation in the career growth and a sense of frustration; (iii) training and developing at induction level as well as at various intermediate levels; (iv) welfare housing and recreational facilities; and (v) improvement in the living and working conditions at various work centres and generally the quality of their lives.

8. To deal with problems identified in the personnel area, a new personnel policy has been adopted which aims at participative style of management in order to develop an environment of mutual love and respect among employees and to provide job satisfaction, better living and working conditions. Training & Development of personnel has been given due importance by gearing training to: (i) improve efficiency, productivity, and knowledge, (ii) develop

specialisation and management skills, and (iii) maintain standards of skills and inputs to new technologies. An Institute of Management Development has also been set up. Three staff training institutes to cater to training needs in drilling, production, electronics, instrumentation, safety, fire fighting and other oil related vocational trades are also being proposed. An Institute of Pipelines Technology is also being planned to train employees in the operation and maintenance of pipelines.

9. A 10-Year Welfare Plan has been developed with the objective of improving individual motivation for high productivity. For better understanding and optimum utilisation of human resources, various behavioural studies have been conducted.

Pricing Policy of Crude Oil and Petroleum Products(LPG)

10. The recommendation of the Oil Prices Committee (OPC, November 1976) and as accepted by Government continued to form the basis for the pricing of crude oil and LPG produced by ONGC. Under this arrangements, retention prices are fixed providing a return of 15% on capital employed. For

consumers, ex-storage point prices are fixed at uniform rates. The prices are revised from time to time. Government had appointed an Oil Cost Review Committee in July 1983 to review the costs and the pricing arrangements for petroleum products and other related matters. The Committee submitted its report in July 1984. Keeping in view the rapid growth in the consumption of energy particularly crude oil and gas in commercial energy consumption and to induce their more efficient and economic use, Government increased the basic price among others of LPG.

Research and Development

11. Among others, the two important objectives of the ONGC are to : (i) build up relevant technology, scientific knowledge and enterprise in relevant areas of exploration techniques, exploration practices and technology, engineering construction and maintenance, and (ii) constantly update the state-of-art in all relevant technology and management in the industry to the best of international standards and practices. To achieve these objectives, R & D has been designed as the "Key Result Area" and activities of the Research Institutes have been geared to achieve these. An

Advisory Committee has been constituted within the Commission to continuously monitor all R & D efforts and to identify areas of further research.

12. The R & D efforts in ONGC are being carried out in the area of oil exploration by the following three major institutes:

- i) Keshava Dev Malaviya Institute of Petroleum Exploration (KDMIPE) established in 1963.
- ii) Institute of Reservoir Studies (IRS), established in 1978; and
- iii) Institute of Drilling Technology, (IDT) established in 1978.

Two new institutes viz. Institute of Production Technology (IPT) and Institute of Engineering and Ocean Technology (IEOT) are being set up at Bombay.

13. The Institutes have been directed to concentrate 80% of their efforts on applied R & D to achieve self-sufficiency in technology, reduce the technology gap and intensify indigenous efforts. The R & D has been made a profit centre to ensure its evaluation in terms of its returns.

14. The KDMIPE deals mainly with basic problems relating to exploratory locations, evaluation prospects of different

basins and implements S & T projects. It also provides back-up services to the exploration efforts, thrust in developing new techniques and expertise in the petro-geo-scientific field services in relating to interpretation of geo-physical, geological data to develop prospects.

15. The IRS provides R & D back-up in the field of enhanced recovery by identifying the most suitable enhanced recovery techniques and conducting studies to optimise field production.

16. The IDT provides back-up services on problems in oil well drilling technology, drilling fluid chemistry, cementation, well control and data acquisition.

17. The IPT is being established to cater to the research needs of production system of hydrocarbon particularly off-shore, process project engineering under-water technology, equipment evaluation, well treatment, fluid flow technology, artificial lift schemes, corrosion and environmental problems.

18. The IEOT has been planned to provide analysis, data collection and laboratory model tests in the field of engineering and ocean technology.

RASHTRIYA CHEMICALS & FERTILISERS LTD.

Introduction

1. Rashtriya Chemicals & Fertilisers Ltd was incorporated on 6th March, 1984 and it came into being as a result of reorganisation of the erstwhile Fertiliser Corporation of India Ltd. At the time of its formation, the company had one operating unit viz., Trombay (old plants) and two major projects under implementation viz., Trombay IV expansion and Trombay V Expansion. The gas-based fertiliser complex under implementation at Thal-Vaishet in Maharashtra was also allotted to the company with an annual capacity of 6.83 lakh tonnes of Nitrogen.

Objectives

2. The basic objective of the company is to manufacture different types of fertilisers. The long term objectives are stated to be to diversify into new areas of business and to work on new fertiliser products. The current objectives are to take the new installed capacity to full production and to market the entire production. The Trombay IV Expansion Project with an annual capacity of 75,000 tonnes each of nitrogen and phosphates (P_2O_5) went into commercial production on 1st January, 1979. The Trombay IV project with

an annual capacity of 1,51,800 tonnes of nitrogen also started commercial production from July 1982. Besides fertilisers, the company is also producing a number industrial products such as Methanol, Argon, Concentrated Nitric Acid, Methyl Amines etc.

Production Performance

3. The production of nitrogenous and phosphatic fertilisers in RCF during 1983-84 has been according to targets. Actual production and capacity utilisation was as follows:-

(000 tonnes)

Major Product	Capacity	Production & Capacity Utilisation		
		1982-83	1983-84	1984-85
1	2	3	4	5
i) Trombay I	N	90.5	75.9 (84)	84.4 (93)
	P ₂ O ₅	45	36.9 (82)	40.5 (90)
ii) Trombay IV	N	75.0	47.7 (64)	54.4 (74)
	P ₂ O ₅	75.0	47.7 (64)	55.4 (74)
ii) Trombay-V	N	151.8	85.0 (56)	140.1 (92)
				125.0 (82)

Percentage of utilisation in parenthesis.

Selection Justification for In-depth Study

4. The company is one of the top performing public sector enterprises; it ranks 4 in the industry group comprising of 25 production enterprises. The three companies above Rashtriya Chemicals and Fertilisers Ltd. are Southern Pesticides Ltd, UP Drugs and Pharmaceuticals Co. Ltd. and Sambhar Salts Ltd. They have not been selected for the purpose of in-depth study as they were either very small enterprises or were taken-over companies or were not in existence for the 10 year period. RCF also qualified in 6 out of 7 indices chosen for the purpose of ranking enterprises and it is also within the top 30 public sector production enterprises.

Financial Status

5. The financial information on selected aspects is given below:

Item	(Rs. in lakhs)		
	1982-83	1983-84	1984-85
1	2	3	4
i. Investment (Equity+ Loan)	37349	54102	71782
ii. Capital Employed (Net Fixed Assets+ working capital)	29766	28742	76899
iii. Net Worth	38539	59542	67592

Items	1982-83	1983-84	1984-85
1	2	3	4
iv. Net Sales	25029	40030	43497
v. Gross Profit	3767	6435	5971

Manpower Information

6. The number of persons employed in different categories is given as under:-

Category	1983-84	1984-85	1985-86
1	2	3	4
Managerial	569	600	679
Supervisory	860	872	990
Workforce	3350	3658	4378

Pricing Policy

7. The prices for the fertilisers industry are controlled by government and the retention prices scheme continues to be in vogue for phosphatic fertilisers. Among the Nitrogenous

fertilisers, Ammonium Sulphate and calcium ammonium nitrate were earlier controlled and at the same time taken out of the purview of the retention price scheme with effect from 8.6.1980, but have been brought back under the scheme from 21.8.84. Urea, however, continues to remain under the retention price scheme. In addition to the retention price scheme, a scheme of freight subsidy is also in operation. This is to ensure that the manufacturers get adequate compensation towards freight expenses incurred by them.

BHARAT HEAVY ELECTRICALS LIMITED

Introduction

1. The Bharat Heavy Electricals Ltd was incorporated on 13th November 1964 to take over the management and control of (i) Heavy Electrical Equipment Plant, Ranipur (near Hardwar, UP); (ii) Heavy Power Equipment Plant, Ramchandrapuram (near Hyderabad, A.P.); and (iii) High Pressure Boiler Plant at Tiruverumbur (near Tiruchirapalli, Tamilnadu), from the Heavy Electricals (India) Ltd, Bhopal. On 1st January, 1974, Heavy Electricals (India) Ltd, with its plant at Bhopal was merged with BHEL. In 1975, two Karnataka Government Companies namely, RMC0 and Mysore Porcelains Ltd (MPL) were taken over and later merged with BHEL in 1980-81. From 1st January 1980, RMC0 was merged with the Control Equipment Division and MPL was given new name of Electro Porcelains Division, Bangalore. In the Fifth Five Year Plan, three manufacturing units namely, Central Foundry Forge Project, Hardwar; Transformer Project, Jhansi; and Seamless Tube Project, Tiruchirapalli were added. Later on, in the Sixth Five Year Plan, four more manufacturing units namely, Boiler Auxiliaries Plant, Ranipet; H.T. Ceramic Insulator Factory, Jagdishpur (U.P.); Industrial Valves Factory, Goindwal (Punjab); and Component Fabrication Project, Rudrapur.

for the manufacture of wind-mills and solar heating systems, were added. BHEL has now 13 manufacturing units, located at Bhopal, Hardwar, Hyderabad, Tiruchirapally, Jhansi, Bangalore, Ranipet, Jagdishpur, Goindwal and Rudrapur. Today, BHEL is organised along the business sectors of Power and Industry to give a spurt to business, particularly systems sales and turnkey projects. These business sectors are supported by manufacturing and service divisions, besides a centralised Corporate Research Division at Hyderabad and Human Resource Development Institute at New Delhi. A Pollution Control Research Institute at Hardwar and Ceramic Technological Research Institute at Bangalore are being set up with UNDP assistance. For heavy power and industrial equipment repairs, a unit is being set up at Varanasi (U.P.). The Company has supplied power stations on turnkey basis in India and abroad.

Objectives

2. The following are the objectives of the enterprise:

- i) Manufacture, supply and turnkey erection of Thermal, Hydel and Atomic Power plants;
- ii) Manufacture, supply and turnkey setting of power transmission lines alongwith transformers, alternators, switchboards, control equipments etc.

- iii) Manufacture, supply and turnkey erection of power and industrial boilers;
- iv) Providing consultancy and consumer assistance services for power plants, industrial and traction motors and other electrical items etc.

Activity Profile

3. Energy Sector (Thermal, Hydro, Nuclear and Transmission and Distribution)

- i) Products: Turbosets & auxiliaries, Steam Generators and Auxiliaries, Hydrossets and auxiliaries, Nuclear Power Equipment, Motors, Switchgears, Transformers, Pumps, Heat Exchangers, Capacitors Porcelain/Ceramics, Controlgear, Castings and forgings, Seamless Steel Tubes, Control Electronics and Associated Instrumentation.
- ii) Systems/services: Power Systems, Turnkey Power Stations, Load Despatch Centres(Consultancy) Erection and Commissioning, After Sales Services.

4. Industry Sector

- i) Products: Boilers, Valves, T.G. Sets, Compressors, Motors, Control Gears, Drive Turbines, Oil Rigs,

Power Electronics, Power & Water Meters, Solar Cells & Panels for Terrestrial and space Applications.

ii) Systems/Services: Electric Drives and Control systems, Thermo-mechanical Systems, Erection & Commissioning, After Sales Service.

5. Transportation Sector

i) Products: Traction Machines (NTC & D/C locos, EMUs), Marine Turbines, Battery Powered Road Vehicles.

iii) Systems/Services: Urban Transportation Systems, Underground Railways, Electric Trolley Buses, Traction Systems for Railways, After Sales Services.

6. Continuous effort is being made by the BHEL in the direction of completion of the on-going projects, on replacement/renewals/modernisation of the existing facilities and also on creation of additional production and auxiliary facilities. An outlay of Rs. 350.40 crores was earmarked for BHEL in the Sixth Five Year Plan and that of Rs. 138.77 crores in the Seventh Five Year Plan.

Selection Justification For In-depth Study

7. The BHEL is one of the largest engineering and manufacturing companies in the public sector. During the year 1984-85

in terms of gross turnover, BHEL occupied 9th position among top ten sale leaders in the public sector. Among the top ten profit making enterprises, BHEL stood at 4th position. In 146 production enterprises it ranked 46 and in Heavy Engineering Group it occupied 4th position. Considered from its ranking in 6 out of 7 indices, BHEL is a high performing enterprise. In Internal Resources Generation over the period 1973-74 to 1983-84, its performance is not so high. It is quite likely that it is largely consuming, by way of paying interest, duties, dividends, high salaries to the employees and spending on social overheads thus, leaving very small amount of retained profits. It is reported that the average wage of an employee in the BHEL is around Rs.2000/- p.m. BHEL claims that the company is now in a position to finance all its investment and diversification programmes during Seventh Plan entirely through internal resources generated by it without seeking any budgetary support from the Government.

8. Product Details

Major Products	Present Capacity (1984-85)		Capacity Utilisation ⁽⁵⁾ 1982-83 1983-84 1984-85		
	Unit	Quantity	4	5	6
1	2	3	4	5	6
i) Thermal sets	M W	3860	69	61	32
ii) Hydro sets	M W	1345	83	45	40
iii) Boilers- Power & industrial	Tonnes	165000	110	85	77
iv) Transformers-	KVA	9250	75	110	85
v) Traction equipment	Nos.	1570	131	129	142
vi) Switchgears	Nos.	2445	56	51	60
vii) Insulators	Tonnes	13020	78	77	34
viii) Electricity Meters	Nos.	600000	95	81	92
ix) Seamless Steel tubes	Tonnes	-	26	33	-

9. With multiplicity of product-mix and the changing pattern of demand, capacity determination and the assessment of utilisation for the unit as a whole poses problems. This is in fact the common characteristic feature of multiproduct engineering enterprises. The imbalance in working load arising out of changing product-mix also affects the utilisation factor. With the given limitations, the capacity utilisation has been given in the above statement in terms of major products only.

10. Production Information

Major Products	Unit of Quantity	1982-83		1983-84		1984-85	
		Target	Actual	Target	Actual	Target	Actual
1	2	3	4	5	6	7	8
i) Thermal sets	MW	.	2412	2420	2112	3320	1244
ii) Hydro sets	MW	.	1119	1014	608	239	542
iii) Boilers- Power & Industrial	Tonnes	.	128183	130656	121257	133407	128596
iv) Transformers	MVA	.	985	8927	10151	8600	7878
v) Fraction equipment	Nos.	.	1702	1805	2017	1872	2228
vi) Switch-gears	Nos.	.	1371	887	1240	1300	1464
vii) Insulators	Tonnes	.	5883	.	5814	.	4491
viii) Electricity Meters	Nos.	.	569225	.	485381	490000	549623
ix) Seamless Steel Tubes	Tonnes	.	11055	.	13627	.	12620
x) Oil Rigs	Nos.	.	.	9	7	10	10

11. As at the end of 1984-85, BHEL had orders worth Rs. 5140 crores. These were considered enough only to keep it busy for another 2 years. It needed orders worth another Rs. 5000 crores in the remaining three years of the Seventh Five Year Plan if production capacities are to hum along at the current 75% rate of efficiency. The production performance as at the end of the Sixth Plan shows a substantial under-utilisation of capacities. Keeping in view the present position of lean order books, the dependency of the company on the power sector would probably be not more than 50 percent, in the near future. Moreover, power equipment markets abroad are also seen to be quite sluggish and it would be rather optimistic to look for big ballooning of export performance of the company. In view of the fact that the voltage is low on the power equipment orders, BHEL is in the process of readying itself, in a big way, to become a widely diversified mega-corporation. The new business strategy is being evolved to put corporate eggs in number of baskets. It has drawn plans, by way of diversification, for branching out in a number of arenas, leasing out equipment such as rigs, manufacture of ~~exx~~ electric dumper for coal mines, and consumer durables like washing machines etc. Locomotives and washing machines may be the wave of the future for BHEL if it wants to stay in the big league.

12. The technology policy of the company has started paying dividends. BHEL has been constantly improving its designs and manufacturing technology in consultation with Central Electricity Authority and State Electricity Boards. As a result of these efforts, generation of power from BHEL sets has increased. Technology is being updated in respect of 500 MW thermal sets, motors, switchgears, valves, oil rigs where indigenisation is in progress. The fluidised bed boilers supplied by it have become very popular. Another notable achievement during 1984-85 was the successful development of a system for the direct ignition of pulverised coal which will lead to nearly 90% saving in fuel oil consumption. Furthermore, in view of the Department of Energy's ambitious plan for installing 10,000 MW of nuclear power generating capacity by the turn of the century, BHEL is gearing itself to augment manufacturing facilities for nuclear steam generators to produce 8 steam generators of 235 MW per annum.

13. Financial Information

(Amount in Rs. lakhs)

Item	1982-83	1983-84	1984-85
	Amount	Amount	Amount
1	2	3	4
i) Investment (Equity+loan)	5,34,83	6,79,89	6,80,67
ii) Capital Employed (net fixed assets + working capital)	8,76,10	8,69,61	8,99,62
iii) Net Worth (Paid-up Capital + Free Reserves less accumulated losses (deficit) and DRE remaining unamortised)	3,70,35	4,20,11	4,91,47
iv) Net Sales (Sales less returns, selling commi- ssion, discount and rebates etc)	12,33,87	14,12,32	16,07,02
v) Gross Profit (EBIT)	1,51,92	1,73,73	1,79,65

Pricing Policy

14. Prices of all products manufactured in the BHEL are either determined by market forces or through direct negotiation between the buyers and the seller. Negotiated prices also are relatable to prices fixed by the Bureau of Industrial Costs and Prices for power equipment. Actual prices are less than the prices so derivable.

15. Market Share of BHEL equipment in Indian power system:

<u>Year</u>	<u>Percentage</u>
1979-80	86% of total MW commissioned in the country
1980-81	42% of the installed capacity in the country
1981-82	46% of the installed capacity in the country
1982-83	93% of the generating capacity added during the year.
1984-85	84% of the generating capacity added during the year.
Sixth Plan period	89% of the total MW commissioned in the country.

16. Exports

<u>Item</u>	<u>(Rs. Lakhs)</u>		
	<u>1982-83</u>	<u>1983-84</u>	<u>1984-85</u>
i) Goods (BHEL equipment like switchgear, insulator, hydrosets, turbosets, Boilers and components, transformers, equipment for power stations etc.	2360	1409	236
ii) Services rendered in setting up power stations under turnkey contracts	2463	1326	706
<u>Total</u>	<u>4823</u>	<u>2735</u>	<u>945</u>

17. Research And Development

Through in-house R & D, BHEL has achieved considerable progress in absorption and adaptation of imported technologies, introduction of new products, in making improvements in existing products and technologies and in producing indigenously import substitution components etc. During the year 1983-84, a corporate R & D complex and a central Management Development Institute were set up. Major achievements as a result of R & D efforts are detailed below:

1982-83

- * Series compensation for power system stability
- * Waste heat boilers for energy conservation
- * Well head and oil field valves for thermal power stations to replace the imported ones
- * Auto synchroniser for improving generator synchronisation

1983-84

As a result of import substitution efforts made by BHEL, there was a saving of Rs. 10.53 crores in foreign exchange.

1984-85

Completed the development of direct ignition of pulverised coal in existing boilers and commissioning of 15 MW Magnets Hydro-dynamic and the technology of Fluidised bed combustion boilers.

18. Expenditure on R & D

Item	(Rs. lakhs)						
	1982-83		1983-84		1984-85		
	Target	Actual	Target	Act.	Tar.	Act.	Target
1. Amount	N.A.	1317	3000	1468	1800	1639	2000
2. % of Production	.	1.19	2.31	1.22	1.17	1.13	1.18

In order to compete with leading international electrical companies, the BHEL intends to step up its investment on R & D to at least 5-7 percent of the outturn by 1990.

Strengths and Weaknesses

19. Strengths

i) BHEL is an integrated organisation, producing power generation and transmission equipment and auxiliary items to cater to the Central Electricity Authority power programmes. It operates largely in the power sector which being one of the core sectors of the Indian Economy has a large growth potential. In supplying power generation equipment it is the leader in the country supplying, on an average, 80 to 90 percent of the country's needs. Besides, it plays a major role by providing useful range of

products for other key sectors namely, Urban Transportation, Railways, Fertilisers, Steel, Oil etc., in the form of drives, process equipment and controls etc. This provides BHEL with a wide spectrum of business which stands it in good stead during business fluctuations.

- ii) BHEL has, over a period of about 20 years, developed sophisticated engineering skills and modern manufacturing facilities which are comparable with the best in the world. BHEL has at present 23 technical collaboration agreements with foreign firms (out of which 4 are with Siemens of West Germany). Further, BHEL launched some years ago a Quality Circle Movement within the organisation, which is aimed at bringing quality awareness by involving all departments to build up a culture where quality is built into the product. It is reported that about 1100 productivity improvement projects and 1600 Quality Circles were in operation. The productivity of capital and labour in the organisation has sustained fairly reasonable level as a result of these measures supported by environmental advantages. All this has enabled BHEL to successfully withstand competition

not only from foreign suppliers in the global tendering in respect of power generating equipment by getting some orders for the sophisticated power generating equipment meant for the NTPC besides some export orders for its equipment, but also competition in the domestic market from the industries in the private sector as far as boilers, industrial drives, switchgears and transformers are concerned. The very fact that the sales of BHEL are, of late, increasing from year to year shows that it has withstood the competition well. During 1986-87, it is reported that in sales, among the public enterprises, BHEL comes second next to SAIL.

- iii) As an organisation, BHEL has a divisionalised set-up. The operational pattern on a divisional basis, apart from fixing responsibility on managers for all the activities, such as sales, engineering and manufacturing, relating to their products, gives the General Managers the feeling of belonging and responsibility for all these activities in respect of the product(s) in their respective divisions, which, in turn, has helped in bringing about better coordination among the 3 main technical functions - sales, design and manufacturing. It is a fact

that BHEL has grown over the years and its operations have also become more complex and diverse in nature. The BHEL maintains that mere growth in size or complexity has not made the organisation unwieldy or has not really posed a constraint for effective management. On the other hand, integration of similar operations is stated to lead to more effective utilisation of available resources. It is reported that there are organisations, like Siemens, in the world which are very large, and yet these are successful performers.

- iv) According to BPE, the BHEL has a financial and budgetary system which is known to be one of the best in the corporate sector. Each Division prepares three sets of budgets namely, (a) conventional budget covering sales, production, material consumption, operating expenses, profit ways and means etc; (b) functional budget; and (c) product budget. Overhead expenses are controlled with reference to the approved budget. Expenses are also collected functionwise/productwise and compared with the budget. The corporate

office receives from the various divisions prescribed MIRs on the various items of expenses actually incurred and reviewed with reference to the approved budget. As regards cost control, since BHEL units are mostly engineering units, the company has established job costing method of collecting costs element-wise - material, labour and overheads. A cost manual has also been prepared, outlining detailed method of cost collection in respect of direct material, direct labour and overheads apportionment/allocation procedures. This forms the basis of evaluation of WIP and of finished goods. In respect of materials, detailed stores ledger is maintained.

Physical verification of stock is a perpetual process. Again, BHEL has a manual of maintenance of the price stores ledger. With the establishment of a historical cost system, product-wise operating results are prepared periodically and reviewed.

- v) The company provides good scope for growth opportunities for employees due to diversification and expansion potential.

vi) BHEL has over a period of few years created a good climate for employee morale and discipline by looking after their welfare besides taking care of their growth opportunities in the company and paying them well. It is estimated that the average emoluments received by a BHEL employee comes to over Rs.2000/- P.M. BHEL received Award for best industrial relations from All India Organisation of Employees for 1983-84.

20. Weaknesses

i) Capacity utilisation to the optimum level in the BHEL units has posed a real problem to the Management, particularly in thermal generating plants, hydro sets, boilers and insulators. This is largely attributed to the fact that as a result of liberalisation of Import Trade Control Policy in April, 1978 the power generation equipment came to be included in the list of items allowed for global tendering and thus these items were taken out of the monopolistic range of BHEL, and the competition faced from the industries in the private sector within the country in respect of seamless steel tubes, boilers and insulators. Added to it, there have been

demand constraints for certain items in the BHEL's product range. Ageing of the plants in some of the units, inability to keep pace with the latest technology, old and faulty designs of certain products, and imports of certain categories of equipment have also added to the difficulties of the company in making an optimum utilisation of the capacity.

- ii) The liquidity position in the company over the past many years has not been upto satisfactory mark. This has been very largely due to (a) the short-fall in collection in the 1980-81 and 1981-82 primarily due to the non-payment of dues by its customers primarily State Electricity Boards, and in part to non-receipt of advances on new orders planned in the budget and (b) accumulation of inventories on account of postponement of site delivery requirements of the various projects by the customers, excessive stocking of slow moving and non-moving items in stock, lack of planning on procurement of components from the foreign collaborators, testing difficulties, and also as a result of revision of delivery schedule by

customers after the production programmes were finalised. There was, however, some improvement visible in the liquidity position since the year 1983-84, which was made possible due to steps taken by the Company to mobilise long-term funds through debentures, loans from foreign financial institutions and public deposits and also to some extent due to better management of working capital through containing inventory levels and outstandings. The inventory level which was 246 days of turnover during 1982-83 dropped to 207 days in the year 1983-84, and further to 164 days during 1985-86.

- iii) Through in-house research & development, BHEL has achieved only a symbolic progress in absorption and adaptation of imported technologies, introduction of new products, making improvements in existing products and technologies, and in providing indigenously import substitution components etc. The impact of R & D has been a limited one due to the fact that BHEL's expenditure on R & D is just 1% of the annual turnover. This does not touch even a fringe of the needs of a giant company, catering to the core sectors of the country.

iv) The 'after sales service' seems to have been neglected area of BHEL's operations until recently. A beginning has, lately, been made since 8 regional service centres have been set up in different parts of the country; and spare parts worth Rs.219 crores. viz. 12% of the turnover were supplied during 1985-86.

HINDUSTAN PHOTOFILMS MANUFACTURING CO. LIMITED

Introduction

1. The Hindustan Photofilms Mfg. Co. Ltd. (HPF) was incorporated on November 30, 1960 with Registered Office at Ootacamund.

Objectives

2. The HPF was set up as a national enterprise with the objective of ensuring regular supplies of wide range of photo-sensitive goods of high quality at competitive rates which are required in abundance for Education, Entertainment, for Mass Communication and Public Health, for Defence Forces and Scientific Exploration, and for Amateur and Applied Photography, and to make the country self-sufficient in this regard. With a view to fulfilling these general objectives, the HPF has set definite goals for itself as given in the Company's Corporate Plan, and thereby-

- strive to make the country self-sufficient in photo sensitive materials;
- make the HPF the nucleus of national photographic industry in India, stimulating R & D efforts to keep abreast of international developments in a fast changing sophisticated technology;

- serve the country in its efforts to increase the rate of economic growth; and
- contribute significantly to the national economy.

Activity Profile

3. The HPF Ltd. has three manufacturing plants, located at Ootacamund and Ambattur near Madras. In the main factory at Ootacamund which was set up in 1967, the manufacture of films/photographic paper is taken up in all its four stages of operation viz., films base, emulsion preparation, i-coating and conversion, for integrated production. Besides, cine colour positive and amateur roll films are also produced by jumbo conversion. There are two plants at Ambattur. One is a processing chemicals plant established in 1977-78 engaged in the manufacture of Developer Chemicals for X-ray/graphic arts films. The other one at the Industrial Estate Ambattur was set up in 1979 as a finishing plant where the finishing of medical X-ray film, industrial X-ray and graphic arts films is carried out from imported widestock.

4. The company's production can be classified into two broad categories viz., (i) Integrated Production - from raw material to finished product stage, (ii) Jumbo Conversion - finishing of semi finished material imported in Jumbo form.

The products covered by the Integrated Production are:

- Cine Film Positive (Black & White)
- Cine Film Sound Negative
- Medical X-ray Film
- Photographic Paper

The products included in Jumbo Conversion are:

- Cine Colour Positive Film
- Amateur Roll Film(Black & White)
- Industrial X-ray Film
- Graphic Arts Film
- Colour Paper

5. A coating plant at Ooty with an additional capacity of 1.8 million square metres for medical X-ray film was added to the production facilities on 13th January, 1985. This would also help the Company to take up integrated manufacture of amateur roll film.

6. With a view to meeting the increase in demand for X-ray and graphic arts film on a long-term basis, a higher capacity modern coating plant in collaboration with M/s DUPont of USA for integrated manufacture of X-ray and graphic arts film on polyester base, with a total capacity of 10.15 million sq. metres of these products is being set up.

7. The company has been meeting the demand for Cine Colour Positive Film by a programme of Jumbo Conversion since 1974, importing widestock from foreign sources for being finished at the Company's Plants. Keeping in view rising demand for Cine Colour Positive Film as a result of the intensive shift from Black & White to Colour in the production of feature films and short films in the country, a proposal for setting up a separate plant in collaboration with M/s Afga-Gavaert of Belgium for the integrated manufacture of cine colour positive film, with the total capacity to manufacture 10 million square metres of Cine Colour Positive and Colour Paper, involving an investment of Rs. 190 crores is under the consideration of the Government.

8. The Company got the sanction from the Government in July 1985 for setting up a Plant for the manufacture of Audio, Video and Computer Tapes at a total investment of Rs. 925 lakhs. The Collaboration proposal for the project has been approved by the Government. The Company has already received industrial licence from the Government and has initially set up a small plant for the conversion of magnetic tapes.

9. Lately, HPF now ranks as one among the six major manufacturers in the world, making photo, cine and X-ray products from raw material to finished product, the other five being Agfa-Gavaert, Kodak, Orwo, Fuji and Ferrania(3M), meeting the major portion of the total demand for various photo-sensitive goods in the country.

Selection Justification for In-depth Study

10. HPF has qualified as a high performing Company in all the 7 indices selected for the purpose, and has scored top position in the Industry Group comprising of 14 enterprises. Among the 146 production enterprises, on the basis of composite ranking, its position is 11. It has been in operation since 1967, i.e. for more than 10 years and was also found to be a turn-around company which could make an interesting and instructive study.

Long Term Performance

11. HPF Mfg. Co. Ltd., is a turn-around company. Since its inception upto the year 1974-75, it was incurring losses year after year. The accumulated losses upto the end of 1974-75 were to the tune of Rs. 1926.56 lakhs. This was

primarily due to the facts that (i) the company could not take up production of some of the items according to schedule; (ii) the number of sanctioned posts was very much in excess of what was required; (iii) the capacity utilisation was very low in both the plants due to teething problems; (iv) the cost per unit of output was high as a result of uneconomic manufacturing process since there was excess consumption of raw materials, excess high level of scrap, high rate of rejections, and low recovery of silver and solvents etc.; (v) the Company till the middle of year 1978 had no marketing infrastructure of its own and it was selling through private distributors all over the country with all the attendant malpractices, leading to a general mismanagement of distribution and sales; and (vi) the unbusinesslike deals in the matter of price paid for the import of jumbo rolls and earnings received on the export of silver nitrate affected the cash generation position of the Company.

12. Though the Government and the Company were in the know of malfunctioning of the Management and of the recurring losses, timely action was not taken and the matters were allowed to drift for quite sometime, causing heavy losses to the Company year after year. Effective action to deal with

the sorry state of affairs was initiated very late. The Management initiated series of measures to improve the working of the undertaking which included: (i) those to step up the utilisation of capacity installed in the two plants; (ii) to improve the quality of the products by toning up the production efficiency so as to minimise rejections, reduce scrap levels etc., (iii) to strive cost reduction by effecting economies in consumption of materials and adopting appropriate cost control methods; (iv) to evolve a rational pricing policy; (v) to build up the needed marketing infrastructure consequent upon the take-over of direct distribution of its products by the Company w.e.f. 1st July, 1978 and ensure distribution consistent with market demands; and (vi) to contain the deteriorating cash flow position of the Company primarily by means of judicious inventory management.

13. As a cumulative result of these measures, there has been an overall improvement in the operational efficiency and profitability of the Company. For the first time, the Company generated surplus in the year 1975-76 and it came out of the 'red'. With the profit generation from year to year since then, the Company wiped off the entire cumulative losses at the close of the year 1982-83, and has struggled to attain the status as it is now. *

Production Performance

14. The actual production of various items attained by the company during the 3 years as against the installed capacity is given as under:-

Production & Capacity Utilisation

(in million sq. mts.)

Product	1982-83		1983-84		1984-85	
	Capa- city	Actual Produc- tion	Capa- city	Actual Produc- tion	Capa- city	Actual Production
1	2	3	4	5	6	7
i. <u>Cine film</u> <u>positive</u> <u>16 mm</u> (Black & White)						
Integrated Production	0.200	N.A.	0.200	N.A.	0.200	N.A.
ii. <u>Cine film</u> <u>positive</u> <u>35 mm</u> (Black & White)						
Integrated Production	2.000	NIL	2.000	NIL	2.000	NIL
iii. <u>Cine film</u> <u>sound nega-</u> <u>tive</u>						
Integrated Production	0.527	N.A.	0.527	N.A.	0.527	N.A.
iv. <u>Cine Colour</u> <u>positive</u>						
Jumbo conversion	3.562	N.A.	3.562	N.A.	3.562	N.A.

Product	1982-83		1983-84		1984-85	
	Capa- city	Actual Produc- tion	Capa- city	Actual Produc- tion	Capa- city	Actual Production
1	2	3	4	5	6	7
v. Amateur Roll Film						
Integrated Production	0.045	NIL	0.045	NIL	0.045	NIL
Jumbo conversion	1.089	0.544 (50.0)	1.089	0.237 (21.8)	1.089	0.248 (22.8)
vi. Photo Paper						
Integrated Production	2.739	N.A.	2.739	N.A.	2.739	N.A.
vii. Medical X-ray film						
Integrated Production	2.162	1.916 (88.6)	2.162	2.523 (116.7)	2.162	2.291 (105.9)
Jumbo Conversion	2.000	0.834 (41.7)	2.000	0.603 (30.2)	2.000	0.403 (20.2)
viii. Industrial X-ray Film						
Jumbo Conversion	0.250	0.048 (19.2)	0.250	0.046 (18.4)	0.250	0.065 (26.0)
ix. Graphic Arts and Portrait Film						
Integrated Production	N.A.	0.121	N.A.	0.014	N.A.	0.053
Jumbo Conversion	0.750	0.131 (17.4)	0.750	0.177 (23.6)	0.750	0.301 (40.1)

Product	1982-83		1983-84		1984-85	
	Capacity	Actual Production	Capacity	Actual Production	Capacity	Actual Production
1	2	3	4	5	6	7
x. Miscellaneous	N.A.	0.023	N.A.	0.038	N.A.	0.079
xi. Developer Chemicals	100	126	100	151	100	N.A.

Notes: 1) Integrated Production undertaken at Ooty Plant only.
 2) Jumbo conversion undertaken both at Ooty and
 Attatur Plants.
 3) Percentage Capacity Utilisation is in parenthesis.

15. In the Ooty Plant, production facility was created during 1976 for the integrated manufacture of photo sensitised products and had an installed capacity of 6.15 million sq. metres of film and paper in a year. Subsequently, as a result of some improvement and balancing facilities provided in the plant, the installed capacity of the Ooty Plant increased to 7.673 million sq. mts, as assessed by a Task Force set up for the purpose. This capacity of 7.673 million square metres has become the reference point for capacity utilisation level since 1981.

16. It was noted by COPU, in their 63rd Report presented to 7th Lok Sabha during 1982-83, that since 1976-77 the integrated production of the Ooty Plant has been near full capacity in terms of the end-product. However, there has been surplus capacity in the finishing department. This spare capacity in the last stage of operation had been utilised to produce other items like Cine Colour Positive Film and Amateur Roll Film by importing semi-finished stock in the form of jumbo rolls and converting them to required sizes. That is how the actual production in Ooty Plant in some items was higher than the installed capacity. Inspite of this, the actual utilisation of conversion capacity has been to the extent of 75-80 per cent, of the available capacity.

17. On the other hand, conversion capacity which was created in the Ambattur Plant to the tune of 3 million sq. metres (2-million sq. metres for medical X-ray film, 0.250 million sq. metres for industrial X-ray film, and 0.750 million sq. mts. for graphic arts & portrait film) has remained grossly under-utilised for 2 reasons. Firstly, this capacity for conversion of X-ray and graphic arts film was created in October 1979 on the basis of demand projections which went

away in actual practice. The capacity utilisation in the Ambattur Plant for production of Industrial X-ray film and Graphic Arts Film picked up only gradually and slowly; whereas in respect of Medical X-ray film it recorded a downward trend since the demand for the product did not match the available production capability in the Ooty and Ambattur Plants. It was found that there was over-estimation of demand for medical X-ray films which did not reach to a level of 5 million sq. metres, as anticipated. The conversion capacity at the Ambattur Plant was not put to use appreciably for this purpose, particularly in view of the fact that the conversion capacity for X-ray films at the Ooty Plant was also augmented by certain improvements carried out in the meantime, and it was possible to meet the entire demand for this product from Ooty Plant itself. Secondly, under the Import Trade Control Policy for 1978-79, industrial X-ray and graphic arts films were brought under the O.G.I. list, thus enabling the importers to import these materials freely. This policy was continued during the next 2 years. Thus, by the time Ambattur Plant went into production in 1979, a large quantity of finished material was imported directly into the country particularly

from cheaper Japanese sources, taking advantage of the O.G.L. provisions. This acted as a major constraint in the utilisation of the conversion capacity at Ambattur Plant especially in view of the fact that all these products have a specified shelf-life. However, on representation by the Company, these items were brought under restricted list during 1982-83.

18. Production of the Company was erratic not only quantitatively as revealed from the above statement, but also qualitatively. The Company for a long time could not achieve the desired quality in production and there have been lot of complaints from the consumers. Due to lacunae in production efficiency, there were lot of rejections particularly at the base coating and conversion stages of production. It was pointed out by COPU in their 63rd Report presented to 7th Lok Sabha in 1982-83 that the quality of the products and the levels of rejections were to be viewed in relation to the technology and equipment available with the HPF. Since the company has been working with most of the plant and the technology supplied in the 60s, such a high rate of rejections is not surprising. During the process stabilisation, for a sophisticated technology, excessive rejections perhaps were an inevitable price to be paid.

19. Even after the Management had known about the high levels of rejections in the working of the plant through the years, it was only towards the close of 1971-72 that they initiated corrective action to effect improvements when the cumulative loss of the plant was over Rs. 11 crores and the entire equity of the Company was wiped off. A number of steps were taken then to stabilise the production and improve the operating performance which was largely instrumental in building as assured quality of its products and bringing about a reduction in the rejection levels. One such important step was towards upgradation of machine and improvement in process capability. Additional instrumentation and control facilities were provided in a fairly extensive way. In the Base Casting Department, all the six base casting machines were modified by July 1973 and the air flow pattern was changed to cast the indigenous Triacetate. The viscosity of the collodian (casting dope) was doubled to increase the casting speeds and reduce the solvent losses. A Solvent Recovery Plant was installed and solvent losses brought down from 1.6 kgs. to 1 kg. per kg. of base produced. In the Coating Department, instruments were installed by the end of 1972-73 to ensure

closer temperature and humidity control. Stick falls and consequent rejections were reduced by introduction of roller chains instead of link chains. A new system to have closer control of coating trough was introduced by which the variations in temperature were brought down to the minimum and coating quality improved. The stick feeding system in coating machines was also improved. The HPF incurred an expenditure of Rs. 45 lakhs on this account during the year 1972-73. As a result of these measures, the rejection levels came down, but even then these were reported to be nowhere near the norms contemplated in the DPR.

20. Further, with a view to attaining the maximum consumer satisfaction, the company launched a policy for effective after sales service to the consumers, and set up a Technical Service Centre in June 1982 at an investment of Rs. 25 lakhs. This Centre is meant to play a vital role in test marketing and evaluating new products and systems, developed by the R&D Centre of the Company, besides handling product complaints and providing timely feedback to the manufacturing operations.

21. As regards cost control, only the monthly statements of costs were being prepared by the Management since the

company went into commercial production in June 1967. From January 1969, the system of marginal costing was adopted by which control of cost was exercised on the main elements of cost namely, material (which constituted 70% of the costs) and not on the total of production. However, on the basis of an expert opinion of a Management Consultant, a standard costing system was introduced in April 1973 so as to compile the total cost of each product under the headings: labour, materials and overheads, at each stage of the process, analyse the cost and bring to the notice of the top management variance analysis to enable them to take suitable corrective action in time. Some decrease in cost of production in the case of X-ray film was effected as a result of reduction in silver coating weight from 17 gm. to 15 gm. Even this, as admitted by the Ministry of Industry, was not the best method of determining and regulating costs. In such a situation, profits accruing to the Company can be attributed largely to successive price revisions that have taken place exploiting the monopoly position in the market in respect of its major products. The COPU commented in their 70th Report presented to 5th Lok Sabha in 1975-76 that the budgeted costs should have been worked out so that the Management

might have a yardstick for assessing the reasonableness of costs and to exercise control thereon. The absence of proper system of cost control had in a measure contributed to the losses incurred by the undertaking.

Financial Status

22. The information on selected financial aspects (in Rs. lakhs) is given below:

Item	1982-83	1983-84	1984-85
1	2	3	4
i) Investment (equity+loan)	28,80	28,80	29,90
ii) Capital Employed (net fixed assets+working capital)	53,89	58,41	73,70
iii) Net Worth (Paid-up capital + Free Reserves less accumulated losses (deficit) and DRE remaining unamor- tised)	15,91	18,51	20,91
iv) Net Sales (Sales less returns, Selling commission, discount and rebates etc)	84,23	87,12	101,18
v) Gross Profit	9,12	11,16	13,10

23. The company has recorded over the three years an overall improvement in its financial status. However, there has been a serious problem in regard to cash flow over the past many years. This is primarily attributed to the fact that the sales of the Company have, by and large, consistently lagged behind production in the last 10 years, outstanding dues to the Company were proportionately very high and faulty credit policy tended to push up the working capital needs. The liquidity position was indeed distressing and the company could not regularly repay the loans and advances since July 1975. The cash flow problem of the company was in no small measure aggravated in the wake of deteriorating inventory holding position of the company till the close of 1981-82, after which it took a turn for the better as a result of certain measures initiated by the Company. Production and Materials Management Departments were reorganised so that planning, re-scheduling and purchase of materials were systematised. A system of perpetual verification of stores was set in motion. ABC analysis was introduced; catalogues for all the stock items were prepared; insurance items were segregated from moving spares; and non-moving items were being screened continuously.

to identify surplus items needing immediate disposal. As a cumulative result of these measures, purchase of defensive materials was largely avoided, stocking of non-moving items was controlled, and surplus items were disposed off, releasing the blocked cash. There was a considerable improvement in inventory management and yet all was not very well till 1984-85 and it needed more intensive management to lead to overall improvement in the operational efficiency and profitability of the enterprise.

24. The inventory position of the Company over 7 years is given below in the following statement:

Item	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85
1	2	3	4	5	6	7	8
i. Overall Inventory (Rs. in lakhs)	23,34	26,64	36,43	44,50	40,26	42,52	42,97
ii. Inventory to value of Production (%)	53.7	58	55	61.5	49	48	44
ii. Inventory in number of days of production/ sales turnover	206	224	210	234	187	186	172

Pricing Policy

25. At the time of commencement of production in 1966-67, the selling prices of most of the HPF products were fixed at par with the selling prices of comparable imported finished rolls in the market. The selling prices in the initial stages had, therefore, no relation with the cost of production and were based on competitive prices only.

26. The Company's cost structure and selling prices were studies by BICP once in 1974 and again in 1978. No major changes were considered necessary as a result of these studies. The BICP envisaged revision in the selling prices only with regard to increase/decrease in five major raw materials and the cost of jumbos. The increase in cost on account of the increase in other raw materials and in wages etc., were not provided for. The formula envisaged increases based on the standard raw material requirement per unit of finished product and also the consequent increase/decrease in capital employed per unit of production only. Therefore, since 1978, the prices of various products of the Company were revised only in the light of the BICP price variation formula as and when there were increases in the price of the five major raw materials and the cost of jumbos. Though this was adhered to in

general, yet in deciding the pricing pattern for the different products within the overall objective of earning a reasonable return on investment, the Company followed a pricing policy based on the principle "what the traffic can bear". Its pricing policy did not necessarily seek profit on every product. Sometimes, the price increase legitimately due on a product was transferred to another product by "Cross-subsidisation". On an overall basis, the pricing policy of the company was considered rational.

27. The Company had to resort to price increase on the selling prices of products manufactured by the Company during the years 1978-79 to 1980-81. This was necessitated by escalation in the cost of important raw materials including silver (which forms 22% of the cost), increase in the rates of excise duties and other levies made in the Central Budget in 1978, and in the case of Medical X-ray film and cine colour film (produced by Jumbo Conversion) it was due to the increase in the cost of jumbo rolls consequent on the silver prices shooting up all over the world. Inspite of the price increase resulting from increase in cost/^{of} production, it was observed that during all the 3 years (1978-79 to 1980-81) cine sound film was sold below cost, and x-ray film

as well as cine positive (B & W) film were sold below cost in the 2 years i.e. 1979-80 and 1980-81. An analysis of the profits on the Company's own products during the year 1980-81 revealed that heavy losses were incurred on cine positive and cine sound film but substantial profits were made on Medical X-ray film (Rs. 81.65 lakhs) and Bromide Paper (Rs. 94.89 lakhs). The Management contended that as a result of deliberate policy there was gross subsidisation in that the black & white films were sold below cost and the loss was covered by profits on cine colour positive films and other converted products.

Research and Development

28. There is a modest R & D Wing in the HPF, whose activities, among others, include Production Process Improvement, New Product Development and Import Substitution etc.

29. In regard to production process improvement, the R & D Wing has developed improved emulsion, formulations in respect of medical X-ray film, Bromide Paper, Cine Positive (Black & White) film, Cine Sound Negative film etc. Plant trials have been successfully completed.

30. In the field of new product development, the R & D Wing has developed emulsion formulations in respect of Medical Recording film, TV Reversal film, Fluorographic film, Graphic Arts (Ortho) film, photo type setting paper (panchro type), Oscillographic direct print paper, medical X-ray film with Cyan image, etc. Work on development of other products such as Colour Paper and Duplicating Film has been undertaken. Field trials are also in progress in respect of new product viz., Diazo Paper developed on non-silver system basis.

31. Under Import Substitution which has resulted in substantial saving of foreign exchange, the R & D Wing of HPF (i) has developed new emulsion formulations for "Aerographic" film and "Laser Beam Recording" film for Space Applications, which are being evaluated by ISRO Space Application Centre Ahmedabad; (ii) has synthesised, for captive consumption, specialised organic fine chemicals and (iii) has successfully developed emulsion formulations for gelatine which has completely substituted the use of imported gelatine in the manufacture of current range of products. Trials for substitution of gelatine with synthetic binders are also in progress.

32. By progressive import substitution efforts of the HPF, the indigenous content in respect of the major products has risen to: (i) 97% in Cine Positive film, (ii) 94% in X-ray film, and (iii) 76% in Bromide Paper (base paper is imported). With a view to absorb and adapt the imported technology in the field to suit our requirements and also to strengthen and consolidate technological base in the field, HPF is in the process of setting up a full-fledged R & D Centre at Ooty. The Centre apart from taking up the development of new products or improvement of existing products will also earnestly take up basic research in the field of photographic science.

Unique Characteristics of the Industry

33. Photo film industry is a high technology and capital intensive industry.—This sophisticated technology is the close preserve of the few multi-nationals in the field and there is no cross-flow of technology between the different manufacturers. The Keynote of success of an industry like this is that the unit must make huge investment on developing its own captive R & D facilities which is considered inevitable. Again, the Photo Film Industry needs precision

plant and machinery requiring constant adjustment and maintenance and high grade skills for its operation. Further this industry has to contend with a very high rate of technological obsolescence which necessitates capital additions to the plant and equipment on a continuous basis. The expenditure on replacement and renewals to the plant and machinery is quite considerable year after year. Another very unique characteristic of this industry involves a delicate process highly sensitive to pollution through trace contaminants in raw materials, air, water and other inputs.

34. In view of the highly sophisticated nature of the products, great care is called for in building quality into the products during manufacture apart from maintaining surgical cleanliness in the operating environment at all times.

Strengths and Weaknesses

For effective functioning an organisation needs to cash on its strengths and keep at bay its weaknesses.

Strengths

35. The major areas of strength identified by the company are:

- (i) The HPF set up its main plant at Ooty with the technical collaboration of a well known French firm M/s Bouchet & Company. The imported technology has been absorbed and well adapted in the indigenous industry with the help of in-house R & D facilities set up for the purpose. India is one of the countries in the world which has established integrated production of four items viz., Cine film positive (Black & White), Cine film sound negative, medical X-ray film and photographic paper. HPF ranks as one among the six major manufacturers of photo-sensitised goods in the world.
- (ii) HPF has developed, over the years, a wide range of skills in a new and sophisticated technology and has built itself a nucleus for a healthy and successful photographic industry. With a good technical base, unlimited captive domestic market, country wide marketing network of its own and effective services, the Company possesses a good potential to develop into a giant photographic industry in the country.
- (iii) HPF has developed 32 small ancillary units to meet a large portion of its requirements of certain fine chemicals and packing materials. Requisite training is being provided by the enterprise to the ancillary units for carrying out critical tests in the enterprise laboratory. In an effort towards import substitution, specifications, formulae and also samples are supplied to the ancillaries. This arrangement has enabled the enterprise to concentrate on the critical areas of production, and has the distinct advantage accruing to the Company by reduction of inventories and capital investment.

(iv) HPF has laid down a rational policy for human resource development within the organisation pertaining to recruitment, development and succession etc., for providing adequate right type of skilled manpower to an industry of this kind. This has meant a periodical organisational planning to obviate duplication of executive effort, continuous review of manpower needs of the organisation, and organising training and development programmes to develop an appropriate quality of managerial and operational skills among various levels of executives and supervisors.

Weaknesses

36. The major weaknesses presently perceived by the HPF are indicated below:

(i) Production of the HPF has been erratic not only quantitatively but also qualitatively. The Company has not been able to achieve the desired quality of products and there have been lot of complaints from the consumers. Due to lacunae in production efficiency, there is more consumption of raw materials per unit of output, considerable rejections and scrap during production. All this has resulted in higher cost per unit and less acceptability of its products by the consumers. This has primarily been due to the fact that the Company has been working with most of the plant and the technology procured in the sixties. A high degree of obsolescence which is very peculiar to an industry like this, has not been adequately taken care of by the Company. During the process stabilisation, for a sophisticated technology, higher cost of production and excessive rejections are perhaps inevitable price one had to pay.

(ii) In regard to production side, the company faces risk from the point of view of dependable sources to ensure adequate and regular supply of certain raw materials required for the manufacture of different products, both existing and proposed ones. Two materials namely, methylene raw chloride and CTA which would be needed in large quantities for the manufacture of a new product like cine colour positive but the production facilities within the country are at present inadequate. Similarly, in regard to polyester base, which would be needed when the proposed modern coater for the manufacture of X-ray and Graphic Arts film is commissioned unless the indigenous sources of supply of photographic grade polyester base are developed simultaneously HPF will face real problem in implementing its programme.

(iii) The marketing of various products manufactured by the Company very largely depends on customers' knowledge and training in the use of these products. There has been, by and large, inadequate availability of trained technicians at the customers' side to handle the company's products with appropriate knowledge and application. With a view to training the customers as also to providing demonstration and information to them in the use of X-ray film and other products, HPF is contemplating to set up a Technical Sales Services Laboratory. In respect of still materials also it is essential that certain such facilities are provided. In the Corporate Plan, HPF has proposed that a technical organisation/training school can be set up by the Company which can turn out professionally trained consumers to set up their own photo film processing studios.

(iv) The factors of production like manpower and capital are not being put to optimum use. This is reflected in the productivity of labour and capital achieved in the company. The analysis of Company's operation in this respect shows that the value added per rupee of manpower cost is Rs.3.46, Rs. 3.30 and Rs. 3.77 during the last 3 years viz., 1982-83 to 1984-85 respectively. That is to say, the labour productivity has more or less remained constant. As regards productivity of capital, it is measured by the efficient use of capital available to the Company in the form of three ratios viz., (i) percentage of net turnover to working capital; (ii) percentage of net turnover to capital employed and (iii) percentage of gross profit to net turnover. How efficiently the capital has been utilised by the Company is evidenced by the following statement showing the abovesaid 3 ratios:

Ratios	1982-83	1983-84	1984-85
1	2	3	4
i. % of Net Turnover to working Capital	178.36	168.74	156.21
ii. % of Net Turnover to Capital Employed	154.96	148.14	136.24
iii. % of Gross Profit to Net Turnover	10.92	12.90	13.05

(v) The Company has for last many years faced the problem of adequate cashflow. The serious liquidity position has been largely due to unsatisfactory inventory management on the part of the Management.

NATIONAL TEXTILE CORPORATION (TAMIL NADU & PONDICHERRY) LIMITED

Introduction

1. The National Textile Corporation (Tamil Nadu & Pondicherry)Ltd. is one of the 9 subsidiaries of National Textile Corporation Ltd, New Delhi. The NTC (TN&P) was incorporated in the year 1974 to own and manage what were once closed sick mills having individual identities of their own. To start with, the subsidiary had 13 mills which were owned and managed by it. It has also exercised administrative control, as a Regional Controller, over Sri Sarada Mills, Coimbatore owned by the holding company NTC, New Delhi. Recently, nationalised Swadeshi Cotton Mills, Pondicherry was attached to the Corporation. As a result , the Corporation now owns 14 mills and administers one mill on behalf of the holding company.
2. The Corporation is a multi-unit, multi-product, multi-location enterprise. Class-wise, the Corporation owns and manages 6 composite mills and 8 spinning mills. Sri Sarada Mills, administered by the Corporation, is a composite mill. Location-wise, 5 composite mills and 5 spinning mills are in Coimbatore District, in close proximity to corporate

Head Office. Three spinning units are outside the Coimbatore District but in Tamil Nadu state, while two composite units namely, Sri Bharathi Mills and Swadeshi Cotton Mills are situated in Pondicherry Union Territory.

Objectives

3. The major objectives of the Corporation are to:

- i) revive its textile mills from its past sickness and to make the units self-dependent and economically viable in all respects through the process of technological upgradation and labour rationalisation;
- ii) identify and weed out uneconomic activities in a phased manner and make the units 'profit centres';
- iii) pursue socially relevant schemes like employment of scheduled castes and tribes, and handicapped persons; manufacture and distribution of less profitable hank yarn and controlled cloth, decasualisation of labour, encouragement of cooperative sector etc; and
- iv) make the NTC (TN&P) a model Corporation in the public sector.

Activity Profile

4. NTC (TN&P) have 8 purely spinning mills and 7 composite units including one managed unit. Yarn constitutes the major share in the production of the subsidiary. The

company produces and sells yarn from count range of 20s to 120s. Spinning products range from coarser to superfine yarn, from cotton to blended yarn, from ordinary to special yarn like combed hosiery yarn. The blended yarns include polyester cotton, polyester viscose and also pure viscose staple fibre yarn. The 8 spinning mills are offering their entire production of yarn for sale in the open market. Besides, the 7 composite units are also offering substantial quantity of yarn for the market after retaining their requirement for weaving. Again, weaving products range from coarser cloth to superfine voile, from cotton fabrics to value added blended fabrics. The company which was producing only Grey Sheetings during the year 1974-75 has, of late, gone in for the manufacture of sophisticated types of fabrics like 100% polyester sarees and shirtings, polyester viscose suitings, fine and superfine cotton sarees and dhoties, chiffon sarees, and 2x2 Rubia Voile etc. The range completes the requirements of a household from handkerchief to suitings. The production pattern has changed in response to changes in consumer preferences and market conditions. Of late, there has been consumer preference for blended

varieties of fabrics as compared to fabrics made out of superfine counts of cotton yarn, the reasons for shift in consumer preference being the meagre price difference between superfine cotton fabrics and blended ^{fabrics} and relatively longer life of synthetic fabrics. Moreover, there has been a very good demand for synthetic yarn in the overseas market provided these are of superior quality, namely spliced yarn. The production shift in favour of blended fabrics was made possible by the liberal policy of the Government for the production of polyester fibre in the country which enabled the textile mills under the Company to get polyester fibre at competitive rates. Sri Bharathi Mills, Pondicherry is the only unit of the NTC (TN&P) Ltd having a Process House with a capacity to process 35,000 metres of cotton fabrics and 3,000 metres of synthetic fabrics per day.

5. With a view to upgrading technology in use, the Company has embarked since nationalisation in 1974 on a programme for renovation of textile machinery in its mills, with the machineries of a decade or two used in other countries. Due to the protectionist economic policy of the Government, the import of machineries or even manufacture of

very latest machineries in collaboration with big giants of the world is not permitted. Since there is a yawning gap between the technology-in-use and the state-of-the-art technology in the field, the Company is pursuing the programme in a phased manner. The process is indeed time and resource consuming, and it is being financed by the Holding Company at New Delhi and through raising soft loans from the Industrial Development Bank of India and the Industrial Finance Corporation of India. The programme entails replacement of old ring frames, and that of plain looms by automatic looms, and the addition of speed frames, spindles and open end spinning machines. The benefits of this renovation/expansion programme are reflected in:

- i) product upgradation: from course cotton yarn to superfine cotton and blended yarn, from course cloth to blended design suitings;
- ii) product diversification: from ordinary to hosiery combed yarn, from household to industrial fabrics like shoe uppers, filters etc;
- iii) recycling of cotton waste produced in the unit mills which was hitherto being sold at throw-away prices and turn waste into wealth;
- iv) increased spindle productivity (converted to 40s) from 58.7 gms. per spindle in 1974-75 gradually to 76.5 gms/ spindle in 1984-85; and

v) improvements in quality and range resulting in increased sales realisation.

Selection Justification for In-depth Study

6. NTC (TN&P) scored a composite rank of 23 among 146 production enterprises, and has been in existence for 10 years. The undertaking qualified itself as a high performing enterprise in all the 7 indices chosen for the purpose of ranking enterprises. It also merited selection since it had first position among the 13 enterprises in the Textiles Group.

Production Performance

7. The data on productive capacity and its utilisation are as under:

Item	Productive Capacity(Nos.)			Capacity Utilisation(%)		
	1982-83	1983-84	1984-85	1982-83	1983-84	1984-85
1	2	3	4	5	6	7
Spindles	4,48,680	4,14,084	4,18,420	71.8	77.3	88.4
Looms	2,036	1,340	1,292	68.5	70.9	72.5

Source: Bureau of Public Enterprises

8. The production targets and their achievements are set out below:

Product	Unit of Quantity	1982-83		1983-84		1984-85	
		Target	Actual	Target	Actual	Target	Actual
1	2	3	4	5	6	7	8
Market Yarn	Lakh kgs.	B.A.	117.33	155.68	160.33	156.74	195.77
Cloth	Lakh Metres	N.A.	224.31	284.33	256.34	293.68	275.29

Source: Bureau of Public Enterprises

Financial Status

9. The financial information on selected important aspects is given below:

(Rs. lakhs)

Item	1982-83	1983-84	1984-85
i. Investment (Equity+Loan)	45,26	49,35	56,13
ii. Capital Employed	53,66	61,67	65,05
iii. Net Worth	20,58	18,81	15,47
iv. Net Sales	71,93	83,08	1,05,63
v. Gross Profit (EBIT)	581	98	82

Source: Public Enterprises Survey Annual Reports.

10. The Company has established in-house computer facility. NTC (TN&P) is the first among the subsidiaries of NTC to introduce computerised accounting in Finance and Inventory Accounting since April 1977. In addition, some more applications such as sales analysis and accounts receivable have been introduced from April 1981. The computerisation has greatly helped the company to streamline the Management Information System with its attendant benefits.

11. Cost Accounting is extensively used in the mills under the charge of NTC (TN&P). Cost accounting is organised both on marginal cost/absorption cost. Marginal costing technique is used to select optimum product mix. The analysis has helped the company to go in for more of value packed/value added products.

Manpower Information

12. The number of persons employed in different categories during 1983-84 are as under:

Managerial	97
Supervisory	366
Workers and other employees	14,233
Total	<u>14,696</u>

Pricing Policy

13. The textile industry is operating in a buyers' market. The prices of the products of the company are determined by demand dominated forces. The individual mills under the company have no say in the price fixation. Yarn prices fluctuate daily. Therefore, prices of yarn produced by the mills by the company are fixed every week by a Yarn Pricing Committee meeting every Wednesday taking into consideration the going prices of the competitors. As the prices of cloth do not fluctuate on day-to-day basis these are fixed once in a quarter by the said Committee taking into consideration the market trend. However, the prices of Government supplies are fixed on cost plus basis since 1984-85.

Strengths and Weaknesses

Strengths

14. In the Textiles Group of enterprises, NTC (TN&P) is one of the two high performing companies. The main areas of strength identified by NTC (TN&P) are:

i) Ten out the 15 mills of NTC (TN&P) are clustered around Coimbatore 'the Manchester of South India'. These units have easy access to trained manpower.

- ii) NTC (TN&P) has a captive market for major portion of its cloth production. Because of Government policy, the company is supplying uniform materials to Government Departments, public sector undertakings and Defence Department on 'cost plus' basis since 1984-85.
- iii) Participative style of management in the company has facilitated to a great extent the implementation of technological modernisation programme in the mills without problems and helped in improving personnel productivity. Sales targets in the mills are laid down in consultation with the grassroot level personnel and motivating them to achieve the targets. As a measure of improved performance through participation, the company has introduced workers' participation in management in its 8 mills.
- iv) Most of the units under the company have fairly satisfactory work culture with major attributes like NTC family, customer satisfaction, quality excellence. The spirit of oneness and awareness of belonging to the organisation improves the performance of the mills, and reduces the down time due to misunderstandings. Most of the mills have quality control departments or procedures which lead to production of quality fabrics and thus ensure customer satisfaction and attractive prices for the products.
- v) NTC (TN&P) has a good system of Management Information System for planning and control. The company has in-house computer facility which aids in the generation of MIS reports, through which early and efficient decision making is possible.

Weaknesses

15. The weaknesses presently visualised by NTC (TN&P) are indicated below:

- i) All the 14 units under NTC (TN&P) were once sick mills. Most of them are having very outdated and dilapidated machineries. Work practices lacked standardisation. Though beginning has been made to revamp the production apparatus through modernisation, rationalisation, much remains to be done.
- ii) The Company does not have sufficient flexibility to adopt product mix of desired pattern depending on the market conditions. Due to Government directive, the NTC mills are required to produce cheap items like 'sulabh' fabrics, janta cloth for the masses. The low value items may not ultimately cover cost of production, which affects the viability of the units.
- iii) The Company is not able to enter in a big way the high income bracket segment of the market for high value synthetic fabrics in competition with established mills on variety and quality consideration. The equipments required to reach the quality/sophistication of the established private sector mills are capital-intensive which are not within the means of the company.
- iv) The impression that the NTC mills were once sick mills still lingers in the minds of the customers. This has a great effect on its sales efforts in the market.

v) Cotton is the major raw material for the products of the company which forms 58 per cent of the cost of production. Under Government directives, the company is forced to buy its cotton requirements only from the Cotton Corporation of India or from other state co-operatives. Quality-wise and price-wise, most of the purchases are not comparable to the open market purchases.

vi) Tamil Nadu is a power deficit state. As 12 of the Company's units are in Tamil Nadu, very often these have to face power cuts which results in low utilisation of capacity with its attendant evils.

vii) 'Staff and Skills' is relatively a weak area of the Company. There are no formal manpower plans, though manpower requirements are assessed periodically. It has no career plan. Job rotation is being done to a limited extent. Incentives schemes are not yet fully established. The only incentive provided by the company for improving personnel productivity and performance is promotion. Non-monetary incentives have their own limitations. This incentive is quite inadequate since the time lag between effort and reward is more.

viii) There is a multiplicity of trade unions in the mills. The attitude of the Unions is not entirely influenced by the working environment within the organisation but also by social, cultural and political factors extraneous to the organisation. Many a time, even small and trivial matters are exaggerated and become a subject of controversy between the trade unions. This affects the day-to-day working and performance in the organisation.

ix) The span of operation of NTC (TN&P) extends to units in 2 different states having different cultures. In Pondicherry being a French settlement earlier, the normal culture of workers is that of eat, drink and be merry. This culture is affecting the working of the 2 mills in the Union Territory resulting in extraordinary absenteeism from work. In Tamil Nadu state also where 12 of its mills are located, a considerable section of workforce is addicted to drinking, and is very irregular in attendance. Since most of them are from nearby villages, any social function in one's family or in the village will keep them away from work. During festivals, marriage occasions and agricultural season, absenteeism would be particularly high.

INDIAN IRON AND STEEL COMPANY LIMITED

Introduction

Indian Iron & Steel Company Ltd., (IISCO) was incorporated as a Public Limited Company in the year 1913 and started producing pig iron at Hirapur works. In 1936, IISCO took over Bengal Iron Company (established in 1875 at Kulti), and initially produced steel in 1939. During 1953, IISCO and Steel Corporation of Bengal (SCOB) were merged with a capital of Rs.7.88 crores and fixed assets of Rs.10.16 crores. Two major expansion schemes which were undertaken in 1953 and 1955 involving an outlay of Rs.60 crores, were completed in 1961. The capacity of the integrated Steel Works of IISCO at Burnpur was expanded to 1 million tonne ingot steel (0.8 million tonne saleable steel) by 1960, and it achieved the rated/near rated capacity consecutively for 3 years from 1962-63 to 1964-65. In 1964, the company embarked upon another expansion involving Rs.100 crores. Except for Rs.7 crores raised as fresh capital, the balance was financed out of Company's own resources and borrowings. The Chasnala Colliery was also expanded with the outlay of Rs.36 crores. Since sufficient funds could not be generated due to decline in production and increase in cost of production which was not compensated by proportionate increase in selling

prices, the Company resorted to bank over drafts. Besides, maintenance and replacement of equipment were also neglected for want of funds. From 1966 onwards the performance of the Steel Plant started deteriorating and in 1972 there was a virtual collapse of production. The capacity utilisation of the Plant in June 1972 was as low as 30% of the ingot steel and 13% of saleable steel. The Government of India intervened at this stage and took over the management of the Company on July 14, 1972. The ownership of the Company was transferred to the Government of India on July 17, 1976. From 1st May 1978 it was brought under the umbrella of the Steel Authority of India Limited when all the shares were purchased by SAIL. At present, IISCO has (a) two major production units at Burnpur and Kulti, (b) captive coal mines at Chasnalla, Jitpur and Ramnagar, (c) Captive iron ore mines at Chiria and Manoharpur, (d) a coal washery at Chasnalla, and (e) a subsidiary: IISCO Ujjain Pipe and Boundary Co., Ltd.

Objectives

2. The long term objectives are to:

- i) make the operations of the company financially viable through modernisation and upgradation of technology;

- ii) augment and diversify production at Burnpur Steel Works for annual saleable steel production of 1.6 million tonnes by the turn of this century;
- iii) introduce ductile iron pipe making at Kulti and Ujjain and gradually expand facilities at Kulti to use it as a Central Spare Parts Manufacturing Shop for SAIL plants;
- iv) develop the Chasnala underground deep mine and the Jitpur Colliery comprehensively so as to meet the major requirement of prime coking coal for the Steel Plant;
- v) exploit the vast deposits of high grade ore at Chiria not only to meet the requirements of Burnpur but also to cater to the future enhanced requirements of other SAIL plants and
- vi) provide housing, medical and educational facilities to the employees and their dependents comparable to other Steel Plants.

3. The current objectives are to reduce and ultimately eliminate "cash losses" by (i) improved production in all units; (ii) reduced cost of production by adhering to techno-economic norms; and (iii) increased sales revenue through higher sale of skull and scrap and secondary products etc.

Production Performance

4. The capacity, production and percentage capacity utilisation are given below:

(000 tonnes)

Name of the Unit	Major product	Rated capacity (1984-85)	Production and capacity utilisation		
			1982-83	1983-84	1984-85
1.	2	3	4	5	6
Burnpur	Steel ingots	1000	624 (62)	543 (54)	444 (44)
	Salable Steel	800	500 (63)	444 (56)	380 (48)

The percentage capacity utilisation is in parenthesis.

5. Targets and actual production are set out below:

(thousand tonnes)

Main Products	1982-83		1983-84		1984-85	
	Targets	Actuals	Target	Act.	Target	Act.
1	2	3	4	5	6	7
i) Steel ingots	780	624	670	543	500	444
ii) Salable steel	600	500	520	444	410	380
iii) Cast iron pipe	116	122	124	101	116	57
iv) Steel Castings and other castings	43	42	46	38	42	39

Selection Justification for In-depth Study

6. The Company has been chosen as a low performing enterprise, since its performance in 6 out of 7 indices had been very low.

Financial Status

7. The financial information on the selected aspects is given below:

Item	1982-83 2	1983-84 3	1984-85 4
i) Investment (Equity + Loan)	10241	12003	12396
ii) Capital Employed (Net Fixed Assets + Working Capital)	9812	10397	7673
iii) Net Worth	-13780	-15887	-23101
iv) Net Sales	31491	31944	31407
v) Gross Profit	-2265	783	-4580

Strengths And Weaknesses

8. Strengths

- The mills are capable of producing a large number of sections and, in a few of these, IISCO is the only manufacturer/principal supplier. Customers have also preference for IISCO galvanised sheets for

- ii) The company has facilities for rolling smaller campaign sizes of Steel to suit the tailor made customer requirements.
- iii) It has captive sources of supply for casting and spares, iron ore requirements, coking coal and boiler coal, to meet its own requirements.
- iv) The Company has its own locational advantages because of lower transportation cost on purchased coal and on own coal. It is also connected to two major railways-Eastern Railways and South Eastern Railways and besides, it is at the heart of DVC grid.

9. Weaknesses

- i) The technology is obsolete and old, the energy requirements are extremely high and yields are extremely low.
- ii) Inadequate investments over the years in additions/ modifications/replacements have led to extreme dilapidated plant conditions. As a result, integrated plant operations have become very difficult. Moreover, plant layout is very congested leaving no room for manoeuvering.
- iii) There is a lack of availability of adequate dumpers, dozers, rolling stocks, mobile cranes, locos, service repair shop facility, stand by equipments and yard facilities.

- iv) Union-management relations are also not very healthy. It has a large number of unions and as a result, it takes a long time to solve problems.
- v) The combined effect of the technical and personnel obsolescence are high labour, usage and average costs; and heavy interest burden.

STEEL AUTHORITY OF INDIA LIMITED

Introduction

1. The first public sector steel company, Hindustan Steel Ltd (HSL), was set up in 1954 for constructing and managing one million tonne steel plant at Rourkela. The steel plants at Bhilai and Durgapur were taken over by HSL in April 1957. The steel plant at Bokaro, set up as a separate company in January 1964, continued its separate entity until 1973. Steel Authority of India (SAIL) was set up, in January 1973, as a holding company with Hindustan Steel Ltd; and Bokaro Steel Ltd., as its two major subsidiaries. With the coming into force of the Public Sector Iron and Steel Company (Reconstructing) and Miscellaneous Provisions Act of 1978, SAIL became an integrated company responsible for the control of integrated steel plants at Rourkela, Bhilai, Durgapur and Bokaro as well as Alloy Steel Plant at Durgapur and Salem Steel Plant at Salem. Besides, SAIL has three subsidiaries - (i) the Indian Iron and Steel Company (IISCO), having its integrated steel plant at Burnpur, (ii) IISCO Ujjain Pipe and Foundry Company Ltd. at Ujjain and (iii) Maharashtra Electrosmelt Limited, having its plant at Chanderpur.

Objectives

2. The main objectives of SAIL are the following

- i) to make the country self-sufficient in different varieties (in shape, size, quality, and specifications) of prime steel;
- ii) to achieve rapid expansion and optimisation of its productive capacity for catering to increasing needs of the country;
- iii) to advise the government on framing pragmatic policies for sustenance and growth of the steel industry as well as the inputs and utilities required therefor.

Selection Justification for In-depth Study

3. SAIL, a company with a massive investment of Rs.6415.76 crores, has been a loss making company. The poor performance cannot, however, be attributed to the inefficiency of SAIL as a whole, but mainly on account of some of its big loss making units like Durgapur Steel Plant, IISCO and IISCO Ujjain Pipe and Foundry Ltd. Recently there is a move by the company to turn around with a very well laid out

corporate plan for improving working of the company. The computer analysis revealed that performance of the company had been poor in almost 6 out of the seven indices as compared to other public sector units. In one index, viz, net profit to net-worth, however, the performance was somewhat relatively better. On the basis of composite ranking, the position of SAIL is 4th in its industry group and 106[#] among 146 production enterprises. In consultation with BPE, it was decided to include the undertaking among the low performing ones. From the point of view ^{of} _{net} sales and gross block, SAIL occupied first or second position among public sector enterprises, over the 1981-82 to 1983-84. (Contd.)

Production Performance

4. The capacity, production and percentage capacity utilisation (parenthesis) are given below:

Main Product/ Plant	Capacity 1984-85	Production		
		1982-83	1983-84	1984-85
1	2	3	4	5
A. Steel Ingots (Million Tonnes)				
i) Bhilai	2.500	2.130 (85)	1.837 (73)	1.998 (80)
ii) Bokaro	2.500	1.829 (73)	1.681 (67)	1.925 (77)
iii) Durgapur	1.600	0.952 (60)	0.806 (50)	0.760 (48)
iv) Rourkela	1.800	1.144 (64)	1.088 (60)	1.119 (62)
v) Burnpur	1.000	0.624 (62)	0.543 (54)	0.444 (44)
(Total) SAIL	9.400	6.679 (71)	5.955 (63)	6.246 (66)
(Integrated Steel Plants)				
B. Saleable Steel (Million Tonnes)				
i. Bhilai	1.965	1.838 (94)	1.574 (80)	1.810 (92)
ii. Bokaro	1.971	1.529 (78)	1.288 (65)	1.459 (74)
iii. Durgapur	1.239	0.813 (66)	0.602 (49)	0.621 (50)
iv. Rourkela	1.225	0.992 (81)	0.862 (70)	1.013 (83)
v. Burnpur	0.800	0.500 (63)	0.444 (56)	0.380 (48)
(Total) SAIL	7.200	5.672 (79)	4.770 (66)	5.283 (73)
(Integrated Steel Plants)				
C. Alloy and Special Steels (Thousand tonnes)				
i. SSP (SAIL) -Stainless Steel	32	6.8 (21)	6.9 (22)	17.1 (54)
ii. ASP (Durgapur) - Saleable Steel	190	46.8 (47)	43.7 (44)	58.8 (59)

5. The Targets and Actuals Production are set out below:

(Thousand tonnes)

Main Product/ Plant	1982-83		1983-84		1984-85	
	Target 1	Actual 2	Target 3	Actual 4	Target 5	Actual 6
A. Steel Ingots						
i. Bhilai	2525	2130	2350	1837	2435	1998
ii. Bokaro	2250	1829	2000	1681	1910	1925
iii. Durgapur	1200	952	1100	806	900	760
iv. Rourkela	1530	1144	1400	1088	1265	1119
v. Burnpur	730	624	670	543	500	444
(Total) SAIL	8290	6679	7520	5955	7010	6246
(Integrated Steel Plants)						
B. Saleable Steel						
i. Bhilai	1980	1838	1847	1574	1910	1810
ii. Bokaro	1758	1529	1497	1288	1450	1459
iii. Durgapur	965	813	833	602	680	621
iv. Rourkela	1187	992	1020	862	900	1013
v. Burnpur	600	500	520	444	410	380
(Total) SAIL	6490	5672	5717	4770	5356	5283
(Integrated Steel Plants)						
C. Alloy and Special Steels						
i. ASP (Durgapur) -Saleable Steel	72	46.8	50	43.7	55.8	58.8
ii. S.S.P. (SALEM) -Stainless Steel	11	6.8	10	6.9	16.80	17.1

Financial Status

6. The information on selected financial aspects is given below:

Item	(Rs. Lakhs)		
	1982-83	1983-84	1984-85
1	2	3	4
i. Investment (Equity+Loan)	418783	443695	472103
ii. Capital employed (net fixed assets +working capital)	307298	280058	349077
iii. Net worth	319648	316012	343192
iv. Net sales	305360	314771	380229
v. Gross profit/ loss (-)	8329	(-)7506	13532

Strengths and Weakness

Strengths

- i) Large capacity base to command a major market share.
- ii) Wide product range.
- iii) Facilities for production of sophisticated products.
- iv) Availability of captive sources for major raw materials.
- v) Proximity of raw material sources.
- vi) Availability of infrastructural support like power, railway facilities, ancillary industries.

- vii) Large reservoir of qualified and experienced manpower
- viii) Availability of infra-structure for in-house training and development of personnel.
- ix) Responsive Trade Unions and established machinery for collective bargaining.
- x) Large technology base for absorption of new technology.
- xi) Availability of in-house R & D expertise and facilities.
- xii) Availability of data base.
- xiii) Codified rules, policies and procedures.
- xiv) Large distribution network for marketing.

Weaknesses

- i) Lack of complete autonomy in decision-making on vital issues.
- ii) Inadequate updating of technology.
- iii) Ageing equipments.
- iv) Inadequate internal resources for overcoming technological obsolescence.
- v) Deterioration in the quality of raw materials.
- vi) Inadequate blending facilities for raw materials.
- vii) Multiplicity of Unions leading to inter or intra-union rivalries.
- viii) Excess manning and low utilisation of manpower.

- ix) Ineffective communication and motivation.
- x) Inadequacies in succession and career planning systems for managers.
- xi) Inadequacy in budgeting and cost control systems.
- xii) Time and cost overruns in implementing projects.
- xiii) Insufficient attention in the past to Corporate planning and Strategic policy formulation.

KUDREMUKH IRON ORE COMPANY LTD .

Introduction

1. Kudremukh Iron Ore Company Ltd. (KIOC) was established in April, 1976. The Project derives its name from the shape of the highest peak in Aroli-Gangmula range of the Western Ghats whose meaning in the local language is 'Horse's Face'. The deposit is located on the Western Ghats approximately 110 km from Mysore and 368 km from Bangalore. The area enjoys a tropical climate with temperature ranging from 38°C in summer to 4°C in winter. Being in the Western Ghats, it is subject to very heavy monsoon in the range of 8000 mm concentrated in 4 months from June to September. The maximum rainfall recorded in a day is 430 mm. Wind velocity can go upto 100 km per hour.

2. The deposit was discovered in 1913 by the late Dr. Sampath Iyengar, the Mysore State Geologist but no importance was attached to the discovery as the technology was not yet developed to beneficiate the low grade magnetite ore to rich concentrate, the preferred material being richer hematite ore in a lumpy form. However after the second world

war, the utilisation of low grade iron ore of magnetite nature was also being considered particularly in USA, because of scarcity of high grade hematite ores. In 1956, NMDC had preliminary investigations for determining the feasibility of utilising Kudremukh ore by beneficiation through grinding and magnetic separation. At this stage a group of Japanese firms - Mitsubishi, Okaro, and Nissho Iwai (MON Group) showed keen interest in the deposit. They along with an US based firm MARCONA participated in a detailed programme of field investigations and pilot plant study as a part of a pre-investment study. These studies were taken up in 1968 and a report was submitted to the Government in 1971. The project envisaged pumping of the slurry to Mangalore and its transport by specially equipped ships. The government approved the investment decision in principle in June 1972. However, in March 1973, the Japanese partners lost their interest in the supply of Iron ore, because of promulgation of some local anti-pollution laws in Japan and the project was shelved. Interest in the project was revived in 1974, at the pre-Indo-Iranian Joint Commission discussions in the third session held in January, 1974. A memorandum of understanding was signed between the two governments on 2nd May, 1974 for supply of quality pellet feed for a plant to be set up

in Iran. Subsequent discussions and negotiations led to the conclusion of two agreements (i) financial agreement and (ii) sale and purchase agreement on 4th November, 1975 between the Iranian authorities and SAIL, under which US \$ 630 million credit was extended for implementation of the project. The sale and purchase agreement provided for production of 150 million tonnes of concentrate, beginning from the end of August 1980, with 3 million tonnes shipments in the first year, 5 million tonnes in the second year and 7.5 million tonnes per year, thereafter. The conclusions of the two agreements and payment of advance of US \$ 100 million on 23.2.1976 triggered the count down for the commissioning of the project within 4½ years which got fixed on 23rd August, 1980.

Objectives

3. The main objectives of the company was mining low grade magnetite from Kudremukh deposits of Karnataka and to beneficiate it to concentrate in slurry *form* for export to Iran during the first 20 years. The concentrated ore was also to be pumped to the ^aManglore port for export to Iran. However, due to political developments in the Country, Iran could not fulfil their commitment. Though the project ne its deadline for completion, Kudremukh Iron Ore Company (KIOC

has unfortunately not been able to operate at full capacity due to reasons beyond its control. The product (pellet feed) was tailor-made to suit the steel plant in Iran. With the change in conditions in that country, it is unlikely that Iran will ever meet the original contractual commitment of lifting 7.5 million tonnes of concentrate per year. Though commercial production started on 1.10.1981, the position of sales and operating results has been dismal due to low capacity utilisation (11% in 1981-82, 16% in 1982-83 and 1983-84 and 21.5% in 1984-85). KIOC has set up a 3 million TPA Pellet Plant at Mangalore for the production of iron ore pellets by using iron ore concentrate. The company is also making efforts to sell pellets to countries like Saudi Arabia, ~~Qatar~~, Egypt and Libya. The company has also now identified alternative iron ore concentrate markets in Roumania, Czechoslovakia, France, Holland, Bahrain and Japan.

4. Based on constraints and the assessment of future trends, the objectives for the plan period have been set down as under: -

i) to survive as an economic entity by making all efforts to reduce cash deficits, reach break-even and then generate enterprise;

- ii) to establish the company in international market as suppliers of quality iron ore concentrate and pellets, and to progressively increase share of these commodities in the world market.
- iii) to promote R & D with a view to reduce cost of production as well as to find economically attractive avenues of utilisation of concentrate/~~pellets~~^{pellets} within the country to reduce dependence on export market;
- iv) to make endeavour to meet full customer satisfaction by making the product more competitive in terms of quality and price as well as by ensuring timely deliveries;
- v) to promote and maintain good business relations with suppliers to procure goods at most competitive prices and to ensure timely receipt of goods and services;
- vi) to work as a model employer responsive to the needs and aspirations of its employees; and to encourage the development of ancillary industries around the project to bring about overall economic development of the surrounding areas.

Selection Justification for In-depth Study

5. KIOC has been selected as one of the low performing enterprises because of poor performance in almost all the seven indices/criteria chosen for selecting enterprises for this study. This undertaking ranked 134th among 146 production enterprises and 12th out of the 13 from the industry group.

Production Performance

6. The data on capacity, production and percentage capacity utilisation are given below:

Major Product	Capacity (1984-85)	(million tonnes)				
		1982-83	1983-84	1984-85		
		1	2	3	4	5
i) Iron ore concentrate	7.5	1.185 (16)	1.201 (16)	1.614 (22)		
ii) Pellets	3.0		set up in 1985			

Percentage capacity utilisation is in parenthesis.

7. The information on targets and actual production is given as under:

Major product	(million tonnes)					
	1982-83		1983-84		1984-85	
	Target	Actual	Target	Actual	Target	Actual
1	2	3	4	5	6	7
i. Iron ore concentrate	N.A	1.185	1.350	1.201	1.650	1.614
ii. Pellets		Set up in 1985				

Financial Status

8. The information on selected financial aspects is given below:-

Item	(in Rs. Lakhs)		
	1982-83 2	1983-84 3	1984-85 4
(i) Investment (equity+loan)	73346	78081	88334
(ii) Capital Employed (Net Fixed Assets+ Working Capital)	37881	30641	38687
(iii) Net worth	15256	11582	43845
(iv) Net Sales	1494	1751	2534
(v) Gross Profit(-)558	(-)3355	(-) 449	

Exports

9. The exports effected by KIOC, which was conceived basically on export project, are as under:-

Product	Unit	Exports		
		1982-83	1983-84	1984-85
Iron Ore Concentrate				
(i) Physical terms	Million tonnes	1.029	1.137	1.650
(ii) Financial terms	Rs. Lakhs	1494	1751	2642

Strengths and Weaknesses

Strengths

10. The major strengths of the Company as revealed from its self analysis and the Corporate Plan are:

- (i) The company has competent managerial and technical skill dedicated to achieve its objectives.
- (ii) The mining and beneficiation technology adopted as well as the facilities installed by the company are modern, sophisticated and comparable to any similar mining industry in the world.
- (iii) Close association of its technical personnel with Met-Chem (a subsidiary of USS Engineers & Consultants) and with supplier of major equipments has helped it in developing a high degree of general engineering skills.

Weaknesses

- (i) The company is beneficiating low grade iron ore and producing a pellet feed the demand for which has not developed to the desired extent. There are only two pellet plants in the West Europe - Reader in U.K. and Hoogovens in Netherlands - which depend on bought pellet feed for pelletisation and use in the latest furnace. Both these

plants find KIOC pellet feed costly and unremunerative, largely due to elaborate facilities installed by KIOC for beneficiating a low grade ore, which makes the cost of production of KIOC concentrate relatively higher compared to the cost of similar pellet feed produced by its competitors (who get this as a by-product out of their production of sinter fines).

(ii) Another weakness lies in the quality of its product. KIOC was designed basically to produce in accordance with the requirements of Iran, i.e., to supply concentrate with 66.5% iron and 4% of Silica + Alumina. The other major producers of pellet feed in the world market are in a position to offer a much richer product, containing about 66% iron and as low as 2-2.5% Silica + Alumina

(iii) Again, in accordance with the provisions of the contract with Iran and to suit their ports, the port for the shipment of KIOC supplies was developed to accommodate ships of only 60,000 DWT size, while the major producers of iron ore, like Sweden, Brazil, Australia, as well as major users, such as Japan and Europe, had developed their port capacity to load/receive much larger ships (200,000 - 350,000 DWT). Since the development of larger

vessels for carrying iron ore brings down the transportation costs, customers having facilities to receive larger ships (West Europe, Japan, South Korea, Phillipines etc.) find iron ore concentrate/pellets offered by Kudremukh uneconomical.

(iv) The incidence of heavy rains in the KIOC project area, force KIOC to face many constraints imposed by weather and difficult terrain.

(v) KIOC is still operating at a capacity much lower than the rated one, since it has not been able to find out total alternate outlets for its products following the back out by Iran. The production has, therefore, to be restricted to the orders in hand.

BONGAIGAON REFINERY AND PETROCHEMICALS LIMITED

Introduction

1. Bongaigaon Refinery and Petrochemicals Ltd. (BRPL) was incorporated in February, 1974 for establishing (i) a refinery having installed capacity of crude throughput of one million MT per annum; (ii) two petrochemical units namely Xylene and DMT; and (iii) one polyester staple fibre plant. The refinery is to utilise the indigenous crude available in Assam and North Eastern Region. The petrochemical unit is to consume the refinery product (viz. naphtha) as their major feed stock which is to be supplied from the refinery itself as well as Gauhati. The crude distillation unit and the petrochemical unit were commissioned in 1979-80 and 1985-86 respectively. The Polyester fibre plant is under construction. The major products from the refinery are Naphtha, HSD, LDO, SKO, FC, ATF, LPG etc. The petrochemical units produce ortho-xylene, para-xylene and DMT. The PSF plant is expected to start production soon.

Objectives

2. The main objective of the company is economical utilisation of indigenous crude available in Assam and neighbouring regions through setting up of a refinery to process

indigenous crude and of a petrochemicals complex to process naptha to produce xylenes and DMT and to set up a polyester staple fibre plant. Some of the other major objectives of the company are following:

- i) setting up of a refinery for processing of Assam crude oil and a petrochemicals complex in Assam;
- ii) assisting in the distribution of the various petroleum products in the refinery;
- iii) maximising capacity utilisation of the plants and operating and maintaining them efficiency;
- iv) earning a reasonable rate of return of investment;
- v) giving impetus to industrialisation of Assam offering base petrochemical products for downstream industries; and
- vi) building a marketing network on All-India, basis for petrochemical products, including fibre. The marketing network is to be backed up by appropriate technical discipline and a Research Development Centre to provide service to customers.

Selection Justification for In-depth Study

3. The company has been selected as one of the low performing production enterprises from among the Petroleum ^{company} group comprising of 12 enterprises. The performance of the

in 6 out of 7 indices chosen for judging long term superiority has been lowest. The overall composite ranking among the industrial group is the lowest at 12 and among 146 production enterprises it is 87.

Production Performance

4. The data on capacity, production and percentage capacity utilisation are given below:-

<u>Major Product</u>	<u>Capacity</u>	<u>(million tonnes)</u>		
		<u>1982-83</u>	<u>1983-84</u>	<u>1984-85</u>
		<u>1</u>	<u>2</u>	<u>3</u>
Crude Through- out	1.0	0.596 (60)	0.649 (65)	0.752 (75)

Percentage capacity utilisation is in parenthesis

5. The information on target and actual production is given as under:-

<u>Main Product</u>	<u>(000' Tonnes)</u>					
	<u>1982-83</u>		<u>1983-84</u>		<u>1984-85</u>	
	<u>Tar.</u>	<u>Actual</u>	<u>Tar.</u>	<u>Actual</u>	<u>Tar.</u>	<u>Actual</u>
1	2	3	4	5	6	7
Refinery throughput	NA	596	700	649	800	752

Financial Status

6. The information on selected financial aspects is given below:

Item 1	(in Rs. lakhs)		
	1982-83 2	1983-84 3	1984-85 4
i) Investment (Equity+Loan)	11822	11530	14638
ii) Capital Employed (Net Fixed Assets +Working Capital)	8947	10683	12188
iii) Net Worth	10655	10888	14561
iv) Net Sales	13242	13399	16300
v) Gross Profit	751	469	521

Strengths and Weaknesses

7. As per self-analysis exercise carried out by the Company, its major strength lies in its unique characteristics, that is refinery-cum-petrochemical complex. All other units in the oil sector are exclusively in the refinery section only. BAFI is the only unit which has the refinery units, the petrochemicals units and the fibre plant.

Location is its basic weakness and as a result it has to face severe transportation and other constraints. Besides, there is, at present, no market in and around the complex for its DMT/PSF. Furthermore, the marketing of the petrochemicals and the fibre products is considered to be a major bottleneck in view of the surplus capacity available in the country for these products. Added to these is its high capital structure as compared to other manufacturers in the field and the possibility that the company might have to offer the products at a discount which may not yield the desired rate of return on investment.

HINDU STAN SHIP YARD LIMITED

Introduction

1. In India, shipping and shipbuilding industry have had an unbroken tradition of excellence extending over 6,000 years. There were a number of shipbuilding yards in the country, the latest being the one at Bombay established in 1735. It was a dry dock which was not to be seen in any part of Europe in size or excellence of site. It is reported that Bombay built ships were not only durable and superior to those constructed elsewhere but were also low priced.
2. There was tangible setback to the Indian shipping industry after 1840 largely because of the fact that vested interests of much mightier forces were bent upon to curb and crush Indian efforts. At the same time, the Indian enterprise was struggling to assert itself, with the pioneering efforts of Narottam Morarjee and Walchand Hirachand to the cause of Indian Shipping, duly supported by the national leaders. The Chairman of the Scindia Steam Navigation Company, Shri Walchand Hirachand decided to revive the shipbuilding industry in the country at any place suited for the purpose, whether the Government of the day helped him or not. Though the idea

of building a shipyard was mooted in 1920, it could take a firm shape only in 1941 when Babu Rajindra Prasad, the then President of the Indian National Congress laid the foundation stone on June 21, 1941, of a modern shipyard at Visakhapatnam. This heralded the revival, in modern form, of an ancient industry, under Indian control and management.

3. The Second World War hampered the construction of the shipyard, and work in right earnest could be taken up only after the cessation of hostilities in 1945. Ship construction was started in 1946, with laying of keel for the first 2 vessels, steamships of about 8000 DWT each, with design of U.K. origin. By 1948, the Scindias found it difficult to run the shipyard without financial assistance from the Government. By 1950, the financial position of the yard was so critical as to apprehend even its closure. The Estimates Committee reviewed the affairs of the shipyard in 1950-51 and recommended the take-over of the shipyard in partnership with the Scindias. Ultimately, the Government decided to take over the shipyard. A new company under the corporate designation of Hindustan Shipyard Ltd was incorporated on January 21, 1952 with the Government holding two-third shares of the capital and Scindia Steam Navigation Company holding

a minority interest to the extent of one-third shares. This joint venture status continued till 1961, till the equity shares held by the Scindias also were acquired by the Government of India and Hindustan Shipyard Ltd became a wholly owned Government of India undertaking in July 1961, with Registered Office at New Delhi.

Objectives

4. The major corporate objectives of the undertaking are detailed as under:

- i) To build up a strong shipbuilding industry in the country with a view to contributing significantly to the growing requirements of National Shipping viz. general cargo vessels/coastal vessels, multi-purpose bulk carriers, container/semi-container vessels, offshore crafts, dredgers and tugs, fishing trawlers/factory ships, oil rigs, and platforms etc. required for offshore oil/natural gas extraction, other needs of national shipping, Naval/Defence organisations, Ports, ONGC etc.
- ii) To provide necessary back-up to the Indian Navy in formulating and meeting their specialised and sophisticated requirements, and thereby meet the country's defence needs.

- iii) To build various types of ships upto 45,000 DWT keeping in view the present and future demands of Indian shipping.
- iv) To provide comprehensive ship repair facilities for larger vessels upto 1,50,000 DWT, including major repair/overhaul of all the low speed/medium speed diesel engines etc to achieve self-sufficiency and self-reliance in the field of marine engineering.
- v) To diversify through manufacture of associated transportation equipment, structural fabrication for steel mills etc.

Activity Profile

5. In the beginning, the Hindustan Shipyard Ltd was manufacturing diesel motor ships of "Maierform" type with deadweight tonnage of 7000-8000 each. At the time of take-over, the requisite expertise and technical know-how in shipbuilding was not available with the country. In 1952, the HSL entered into an agreement with a French firm of consultants for technical aid. With the technical expertise available from the French Firm, ships of different types and designs upto about 10,000 DWT were built. To carry the process forward, after the expiry of the five-year agreement with the French firm, the Shipyard entered into technical

collaboration with a West German firm to build 'Lubecker' type vessels ranging from 9500 to 12,500 DWT. Meanwhile, arrangements were made with M/s Mitsubishi of Japan for supply of advanced design and drawings for a new series of vessels. The first ship in the series, "Jala Kala" was delivered in November 1964. Again, the HSL constructed a training ship "Rajendra" to replace TS "Dufferin", which was launched on April 25, 1971. Subsequently, the HSL commenced production of an entirely new series of vessels of 21,500 DWT. Known as "pioneer class" these are multi-purpose general cargo-cum-bulk carriers very much different from the conventional cargo liners the Shipyard had been constructing. An important characteristic of the "Pioneer" class of ships is the high degree of automation in engine room and navigational control. The first ship of this type was delivered during March 1975.

6. Within years of Government take-over of HSL it was realised that ship construction should be supplemented with repair work. In fact, no country which aims at having a large and efficient mercantile marine can afford to neglect ship repairing work. With cost of construction of new ships

going high the ship repairing attains ever-increasing importance. Consequently, a Dry Dock measuring 800'x125' x38'-7" to provide most modern repairing facilities and having dry docking capacity to take ships upto 70,000 DWT was commissioned in November 1971. The 'Graving Dock', as it is called, is the highest of its kind in India in its principal dimensions and docking capacity. As an adjunct to the Dry Dock, a Wet Basin to provide berthing facilities for carrying out underwater repairs on vessels afloat and to provide additional fitting out facilities for ships under construction was also started in March 1976. With this, the repair outfit of the yard can undertake any kind of hull or engine repairs. Also, the HSL is an authorised service and repair centre for B & W marine diesel engines.

7. The Hindustan Shipyard Ltd has full-fledged design wing having rich experience and expertise in the field of ship design. The wing is adequately equipped to develop flexible design from 14,000 DWT to 27,000 DWT with the same geometry of Hull Forms. The TS 'Rajendra' and V.P.T.Dredger were designed entirely in the Shipyard. In 1982-83, construction of bulk carriers of 27,000 DWT was started by

HSL for the first time - the largest size of the vessels taken by HSL so far, of a design developed totally by the Shipyard. For the first time, designs for the engine room pipe lay-out for vessels were successfully developed. In respect of equipment design, the ship yard had evolved designs for a number of items viz., certain types of valves, air ducts for ventilation, skylight operating gear, side scuttles etc. This is an eloquent testimony to the company's potential in the field.

8. The Hindustan Shipyard has been building conventional simple cargo ships of a limited range and in a limited quantity. The demand for conventional ships of a limited range in the world market was adversely affected due to the changing nature of the cargo trade. As a result of this, over the recent years many ship building yards particularly in Europe were closed, and many others to sustain themselves in the line opted for diversification into production of off shore platforms and rigs and other products of high-value and high-technology nature. Merchant ship construction had, of late, become essentially a low-value, low-profit and

low-technology activity. With the global recession in the shipping industry continuing unabated, concentration of the HSL activities to conventional cargo shipbuilding and repairs alone was found to be counter-productive and non-profit oriented proposition. HSL, therefore, decided to embark on diversification into high-value and high-technology activities like construction of specialised offshore vessels and structures, which happened to be more promising and remunerative and which could advantageously be undertaken with the existing infrastructure or small additions thereto.

9. The opportunity for diversification came when during 1982-83 the company obtained order from Oil and Natural Gas Commission, against a global tender, for construction of a highly sophisticated drill ship involving high technology. HSL was the first Indian Shipyard to bag such an order. The said ship "Sagar Bhushan" was completed with the technical collaboration of M/s Hitachi Zosen of Japan for transfer of technology, and material package deal with FELS at Singapore for import of equipment and machinery, and launched on August 18, 1985. The Company also secured order from the ONGC for 4 nos. Offshore Platform-cum-Support-cum Standby Vessels (OPSSVs) and two Well Head Platforms besides container

type skid mounted portable bunk houses in recent years. The construction of these items has been undertaken in collaboration with foreign firms which have the requisite know-how and technology. Of late, ONGC has placed orders with the HSL for the construction of 2 stimulation vessels, a Non-destructible Testing and Inspection Vessel, a Semi-submersible Rig, a Jack up Rig, a Multi-purpose Support Vessel etc. The other specialist customers of HSL are the Indian Navy, department of Ocean Development etc. The shipyard has already taken up the construction of Naval Dock Blocks for Naval Dockyard, Visakhapatnam.

10. The Hindustan Shipyard Ltd is one of the two major shipbuilding yards (the other one being the Cochin Shipyard) which is under the administrative control of the Ministry of Transport, Department of Surface Transport. The HSL has demonstrated its versatility in building various types of vessels. The main product of the shipyard has been the Ocean going vessels which include general cargo vessels, passenger vessels, mini bulkers of 21,500 DWT, naval vessels, training ship, offshore supply vessels, dredger, and of course tugs, barges and launches etc. Besides, it has undertaken different ship repairing assignments not only of

Indian ships but also of foreign liners. The shipyard has till the end of the year 1986-87 built and delivered 88 vessels of various types and designs. With the offshore vessels activities, the HSL has joined an exclusive group of shipyards in the world which undertake construction of high technology, sophisticated vessels and rigs for offshore exploration and production. Starting from a scratch in the forties, the shipyard has built a nucleus of technological skills necessary for expansion of shipbuilding industry in the country.

11. HSL has undergone a veritable metamorphosis with the implementation of a major Modernisation and Development Programme, at a cost of about Rs. 75 crores. A unique feature of this programme is a 'covered' Building Dock which facilitates construction of ships upto 50,000 DWT under factory fresh conditions. This is poised to double the rated capacity of the shipyard gradually to 6/6.5 pioneer class vessels of 21,500 DWT.

Selection Justification for In-depth Study

12. Through computer analysis of the performance of all 146 production enterprises of the public sector on the basis of 10 years data of 7 pre-determined selection criteria, a composite rank for each enterprise was determined. HSL achieved composite rank of 119 among 146

production enterprises, and was selected as a low performing enterprise. Among the Transportation Equipment Group of enterprises numbering 11, HSL rank was 10. The HSL has been in operation since 1952 i.e. for more than 10 years.

Long Term Performance over 10 years period 1974-84

13. All the indices except the one viz., Net Profit: Net worth based on the 10 years data indicate the overall low performance of the enterprise. After the year 1979-80, the company has been making losses from year to year. The accumulated losses upto the end of 1983-84 and 1984-85 were to the tune of Rs. 2,044 lakhs and Rs. 3397 lakhs respectively. The losses mounted up at an accelerated pace and accumulated losses stood at a record figure of Rs. 10,440 lakhs at the end of 1986-87. By 1984-85, 88.5 per cent of the paid-up capital was eaten up and subsequent to it the entire paid-up capital was wiped off. The net worth of the company also eroded at a fast pace after 1983-84. According to the latest year 1986-87 figures available, the net worth at the end of March 1987 stood at Rs. (-) 6,253 lakhs. The losses incurred by the HSL have been primarily due to wide gap between the cost of construction of vessels and other construction items and the income realised on the same besides increased incidence of interest burden on bank

borrowings occasioned by delayed payments from the customers and construction time over-runs. This seems quite paradoxical in the face of good production performance from year to year inspite of none-too-good order book position. Surprisingly, some loss was incurred by the company on the ship repairing activity also which was largely due to less turnover from this activity as a result of continuing preference on the part of Indian shipowners to get their ships repaired abroad.

Production Performance

14. The data on capacity utilisation of ship building are given below:

Year	Installed Capacity (equivalent to standard pioneer class vessels of 21,500 DWT each)	Capacity Utilisa- tion (Percentage)
1980-81	2.85	37.19
1981-82	3.00	30.67
1982-83	3.00	48.33
1983-84	3.00	67.33
1984-85	3.00	97.33
1985-86	4.28	88.00
1986-87	4.28	58.00

Source: (1) Annual Survey Reports BPE

15. The information on targets and actual production is as under:

Major Product	Unit	1982-83		1983-84		1984-85	
		Tar- get	Actual	Tar- get	Actual	Tar- get	Actual
1	2	3	4	5	6	7	8
i) Ocean going Vessels	Standard Pioneer class vessels of 21,500 DWT	N.A.	1.45	2.06	2.02	2.80	2.92
ii) Ship Repair- ing	Rs. in lakhs		515.56		233.68		245.31

Source (1) Annual Reports of HSL

(2) Action Plans HSL 1984-85, 1985-86

16. The value of Production in Rs. lakhs is set out below:

Item	1980-81	1981-82	1982-83	1983-84	1984-85
1	2	3	4	5	6
Ships, repairs and other services	2435	2747	3747	3982	7621

Source: Annual Report HSL 1984-85

17. Being a job order industry, HSL follows a system of job costing for the purpose of finding out the cost of production as well as controlling the costs of vessels being built. For the purpose of cost control, a cost estimate of each of the vessels under construction is made against which the actual costs are reviewed from time to time. With effect from 1983, with a view to having timely control of costs at the various production centres, a system of performance budgeting has been introduced under which the targets and costs thereof at each of the production centres are budgeted monthwise and quarter-wise, and actual performance measured and variances with reasons reported every month for initiating remedial action well in time.

Financial Status

18. The financial information on selected aspects in Rs. crores is given below:

Item	1982-83	1983-84	1984-85
1	2	3	4
i) Investment (Equity+Loan)	36.06	56.77	90.98
ii) Capital Employed (Net Fixed Assets + Working Capital)	24.72	34.95	41.55
iii) Net Worth (Paid up Capital plus free reser- ves less accumulated losses(deficit) and DRE remaining unamor- tised)	20.86	20.24	6.40
iv) Net Sales (Sales less returns, selling commission, discount and rebates etc)	5.91	17.14	84.14
v) Gross Profit (EBIT)	(-)5.96	(-) 4.10	(-)7.38

19. The Hindustan Shipyard Ltd has continuously faced difficult cashflow position essentially on account of wide gap between the realisable income on the ships and the actual construction cost of the vessels. Even after the applicability of the new pricing formula enforced retrospectively from 1.4.1979 under which assistance of 20% of the International Parity Price of the vessel is payable by the Government to the shipyard, the cash flow position of the company has not improved. The increased cost of construction has resulted from exchange variations, inflation, and higher wage bills on account of enhanced dearness allowance. The blockage of funds has emanated from slippages in the production events, inordinate delay in payments of outstanding bills on ship construction and/or ship repairs on the part of certain shipowners and irregular releases of Government assistance in respect of vessels. As a result of these, there has been a shortage of working capital in the operation of business of the company. The gravity of the problem can be gauged from the fact that the company's working capital of Rs. 671.28 lakhs during the year 1980-81 represented 3.7 months' value of production at cost

(excluding depreciation), during the years 1981-82 and 1982-83 the working capital represented 2 months' value of production at cost. The working capital was augmented to Rs. 1624.84 lakhs, representing 4.7 months' value of production at cost, and further to Rs. 2013.85 lakhs but representing only 3.3 months' value of production at cost (excluding depreciation) during the following 2 years respectively.

20. To help the company to tide over the working capital constraint, the Government sanctioned during 1983-84 a ways and means loan of Rs. 10 crores and also on the request of the HSL enhanced the cash credit limit from Rs. 6 crores to Rs. 10 crores, and further to Rs. 15 crores during 1984-85. However, this assistance coupled with advances from customers was not of much avail in nurturing the company back to its financial health. At the end of March 31, 1985, the amount of Rs. 1034.01 lakhs had fallen due for payment towards principal and interest on the borrowings and the same had not been paid. The increased incidence of interest burden on bank borrowings occasioned by prolonged non-receipt of event-linked payments from the clients had made the

liquidity position of the shipyard more critical. Further, huge inventories in the form of materials in stock (including steel scrap) and work-in-process also added to the financial problems of the shipyard. As on March 31, 1984, the stock of materials including steel scrap was equivalent to 12.8 months consumption and the work-in-process represented 22 months' value of production at cost (including depreciation).

21. With proportion of debt increasing from year to year, the debt-equity ratio started moving in the higher side. This ratio which stood at 0.06:1 during the year 1980-81 had risen to 0.48:1 during 1983-84. The position remained fairly comfortable if viewed against the norm of 1:1 suggested by the Bureau of Public Enterprises.

Pricing Policy

22. The First Five Year Plan wherein provision was made for the development of the Shipyard, stated: "..... Ships from the Visakhapatnam Yard will be sold to the Shipping Companies at reasonable prices. The difference, if any, between the cost of construction and the sale price will constitute the subsidy to the Shipbuilding industry.....".

23. With a view to affording protection to the indigenous shipbuilding industry as also to make the prices comparable to the international prices, the Government evolved a revised formula from April 1, 1971 which laid down the following principles:

- Price payable by the shipowners would be the international price plus 5 per cent.
- The Shipowners would also be charged for escalation (subject to a limit of 7% of the international price) in respect of increase in wages and statutory rise in the prices of controlled items like steel.
- The Government would pay to the Yard 5% of international price, by way of assistance. This would taper off at the rate of one per cent every 2 years.
- The Government would also reimburse the actual price differential between the indigenous price and international price of certain specified items of equipment. The reimbursement in this regard would be subject to a ceiling of 10 per cent of the international price.

24. It was observed that the pricing policy imposed a severe stress on the industry as the total assistance under this policy from both the Shipowners and the Government was limited to 10 per cent over the international price.

Internally, there was unprecedented increased in the prices of all shipbuilding material and wages which began in 1973 and continued thereafter. On this account, the provision for escalation and State assistance were found to be extremely inadequate. There was a great pressure from the Shipyard side to urge the Government to revise the pricing policy suitably. As a result, extensive studies involving Bureau of Industrial Costs and Prices, BPC and the Ministries concerned were made, and the pricing policy was again reviewed. New pricing formula for the ships built in Indian Shipyards was promulgated by the Government in February 1981 with retrospective effect from 1.4.1979 under which straight assistance of 20% of the International Parity Price of the vessel became payable by the Government to the Shipyard.

25. Under the new pricing formula, the pricing of Indian built ships is based on average International Parity Price (IPP), which is derived from the international prices of ships. Since shipbuilding was subsidised in almost every maritime country, either directly or indirectly in varying degrees, the international prices of ships (from which the

average IPP is derived) were very tricky and unreal when viewed from the point of view of Indian Shipbuilding industry. Thus, the new pricing formula of basing prices of Indian built ships on IPP has no stable relationship between the prices realised by the Indian Shipyards and the cost of the Indian built ships. This formula has worked favourably neither for the shipowners nor for the Indian shipyard. On the one hand, it has deprived the shipowners of the advantages of low prices prevailing in the world market; on the other hand, it places Indian Shipyards in extreme distress as the prices realised for their vessels are related to the "dumping" prices in the world market.

Research and Development

i) Import Substitution

26. There is an Indigenous Development Cell in the HSL which has given the maximum and assiduous attention not only to consolidate the manufacturing capacity developed in respect of certain new items but also to identify quite a few additional items for which indigenous manufacturing capacity has been established. This Cell has also been

able to establish local fabrication capacity for a number of items conforming to Lloyd's standards. By and large, the efforts of this Cell have been in the direction of locating and assisting the ancillary industries to manufacture the import substitution items.

27. As a result of relentless and diligent efforts made by the Indigenous Development Cell, a large number of equipments which were hitherto being imported have been developed indigenously and installed on the ships under construction, thus saving foreign exchange to that extent for the country. These items include (a) windlass and mooring winch; (b) sewage plant and incinerator; (c) boiler plant; (d) CO₂ fire extinguising and smoke detecting plants; (e) emergency diesel generating sets; (f) deck cranes; (g) marine pumps; (h) fresh water generating plants; (i) wireless equipment, etc. The indigenous content in the construction of Ships in the HSL has been, steadily but surely, increasing at a rapid rate. In the sixties, the import substitution was 30 per cent and it increased to 50% in the seventies. With the manufacture of the items mentioned above, the import substitution would have gone up to more than 75%. The saving of foreign exchange by

import substitution since 1979-80 (for which data are available) is as under:

1979-80	Rs. 42.80 lakhs
1980-81	Rs. 21.52 lakhs
1981-82	N.A.
1982-83	Rs. 36.11 lakhs
1983-84	N.A.
1984-85	Rs. 641.25 lakhs

ii) Expenditure on R & D in Rs. lakhs is given below:

1982-83	Rs. 0.24 lakhs
1983-84	Rs. 1.00 lakhs
1984-85	Rs. 5.00 lakhs

It will be seen that the expenditure on R & D is only an insignificant fraction of the production cost.

Industrial Relations

28. Despite remarkable progress in technology, the ship-building industry the world over continues to employ a large number of workers. There are many skills which cannot be replaced through mechanisation. A great deal of manual work is still necessary in many ship building operations. Again, ships are not generally built in a series of the same

model. They are custom-built; this fact precludes any general application of automation. The performance of the Shipyard, other things remaining the same, very largely depends on the industrial relations obtaining between the workers and the Management.

29. Since the take-over of the Shipyard by the Government, for six years labour relations in the Shipyard were cordial and there was no strike at the Yard during the period. After this brief interlude of cordiality, industrial relations became extremely strained after 1966. The crisis of confidence between the employees and the management was so deep that they were not having any useful and purposeful dialogue and were constantly in a state of confrontation. The employees went on strike for nearly 2 months in 1967 followed by a number of walk-outs and 'work-to-rule' agitations during 1968 and another strike in May 1969 in which both workers and the staff participated for the first time, and which was the costliest, accounting for the loss of over 100,000 mandays.

30. The Company with a view to normalising the surcharged environment and improving industrial relations introduced the revised wage structure during 1969-70. Since then,

constant dialogue with trade union representatives was maintained for understanding and appreciation of each other's view points. The Management gave a positive direction to the philosophy of industrial relations, by creating a sense of belonging to the organisation and a feeling that the employer and employees were co-partners in a joint venture. One example to indicate how the workers of the Yard shared the privileges, achievements and aspirations as members of a big family is that the President of the Staff Union of the Shipping Corporation of India was invited to launch a HSL built ship M.V. 'Vishva Yash' on March 17, 1972. This climate of mutual goodwill facilitated the introduction of useful innovations like the multi-trade system, which sought to eliminate wasteful labour practices. The Company also introduced a number of welfare measures for the benefit of the workers - such as subsidised lunch, medical reimbursement subject to a reasonable ceiling, free well-equipped medical dispensaries, educational facilities, recreation club, housing colony with necessary peripheral facilities. A non-official Welfare Committee was formed in June 1970 which coordinate and promotes various welfare measures in the field of health, education, welfare etc. Thus, as a result of positive direction given to the industrial relations policy,

there was not only an atmosphere of cordiality prevailing in the Shipyard but also increasingly enthusiastic cooperation from the employees. This atmosphere continued hereafter and not a single manday was lost on account of industrial disputes during the period 1970-75.

31. There was a setback in the industrial relations for a short duration in 1982-83 when the new Union leadership resorted to a confrontational and agitational approach, and the Management was forced to declare a partial lock-out in June 1982. The feelings of the employees got soothened when the Management signed a Wage Revision Settlement in respect of workmen and staff during 1982-83 effective for a period of 3 years from 1st February 1983. During 1983-84, through this healthy relationship obtaining between the Management and the employees, there had been better productive utilisation of all staff and workmen and constructive schemes such as production linked incentive and wage structure and employees' participation in management were introduced. During 1984-85, the scheme of employees' participation in management made further strides with the constitution of several Joint Management Committees in the

areas of Colony Improvement, House Allotment, Canteen, Safety, Education etc. In some of the sensitive areas, the employees' representatives were nominated as Chairman of these Committees. Besides, Quality Circles were introduced in some departments which is slowly gaining momentum.

32. As a result of vacillating industrial relations and also due to other factors, there were lot of mandays lost resulting in production loss in varying degrees. The magnitude of this problem can be seen from the following figures:

<u>Year</u>	<u>No. of mandays lost</u>	<u>Value of Production loss (Rs. in Lakhs)</u>
1978-79	16,654	40.01
1979-80	12,703	32.34
1980-81	14,918	36.48
1981-82	9,475	30.92
1982-83	20,493	82.38
1983-84	15,468	75.66
1984-85	6,060	37.17

Strength and Weaknesses

33. The strengths of HSL may be in regard to efficient technological base, effective infrastructural support and

environmental advantages while the weaknesses of the company arise from the peculiarities of the shipbuilding activity, organisational conflicts, none-too-smooth industrial relations, inadequate systems and procedures.

Strengths

34. The major strengths of HSL are as follows:

- i) The Hindustan Shipyard Ltd is the oldest shipbuilding yard in the country. Starting from scratch in the forties, the shipyard has built a nucleus of technological skills necessary for developing the shipbuilding industry on sound lines. The shipyard has full-fledged design wing having rich experience and expertise in the field of ship design. Besides, HSL is equipped with an integrated ship repair facility consisting of a "Dry Dock" and a "Wet Basin" to provide berthing facilities for carrying out underwater repairs on vessels afloat and provide additional fitting out facilities for ships under construction. In its activities HSL has absorbed the latest technology from the foreign shipbuilding companies, and has thus become a varitable storehouse of shipbuilding expertise.
- ii) With an efficient technological base and effective infrastructural support, HSL has acquired the unique distinction of versatility to construct all types and sizes of vessels including specialised technologically complex offshore vessels and structures.

iii) Situated adjacent to a major port and an important Naval Base and with large scale drilling for oil and natural gas going on in the nearby Godavari Basin, HSL has locational advantages in that it has had adequate exposure to and opportunities for assessing the diverse requirements of various organisations like ONGC and Naval Dockyard etc and for meeting any type of maritime requirements. The city is well connected by rail, road, sea and air.

Weaknesses

35. The main weaknesses as visualised by HSL which are largely behind its low performance are indicated below:

- i) Due to the long cycle time of the product ranging from 24 to 30 months inherent in the Shipbuilding industry, the organisation cannot readily respond to the changing needs of the market.
- ii) Shipbuilding is a high-technology and at the same time labour-intensive industry. Though set up over decades ago, HSL workforce is a queer blend of under-qualified senior craftsmen with substantial experience and qualified youngsters with limited experience.
- iii) No distinct corporate culture has been formed in the company. The cultural attributes are perceived to have been eroded due to segmentation and

compartmentalisation based on caste and political beliefs, causing widespread depression and mutual distrust.

- iv) The Chief Executive and other leaders are said to practise participative managerial style, yet there is only a lukewarm and half-hearted involvement on the part of the employees, in the organisation and in the job in particular. There are very few committed persons in the organisation and they are operating in self-seeking style.
- v) The company has been faced with acute liquidity position largely due to fluid order book position and delayed payments of bills by the customers etc.
- vi) The industrial relations in the company have, by and large, been none-too-happy despite brief interludes of vibrant harmony and constructive co-operation. There have been frequent occasions when the relations between the Trade Unions and the Management had received setback. As a result of vacillating industrial relations and also due to other adverse factors, lot of mandays were lost resulting in colossal loss in production.
- vii) There is lack of effective management systems and procedures in the organisation particularly the one to improve personnel productivity and performance.

viii) Shipbuilding at HSL is restricted by the width of the port entrance channel. Due to this environmental constraint, if the ships in the region of 1,00,000 DWT are required to be built, construction facilities have to be set up elsewhere outside the channel.

POINTS OF VIEWS OF RESPONDING PAST CHIEF EXECUTIVES

Forty seven past Chief Executives of the selected enterprises were approached with a request to express their views on six questions for identifying effective leadership practices leading to excellence in managerial performance. Fifteen of them responded. The abbreviations used for the names of Chief Executives have been explained at the end of the Appendix. One of the questions related to the description of **key** decision points as viewed by them in retrospect. These are supportive of the views expressed in reply to other questions and have not been mentioned here. The replies to other questions are presented below in brief.

Q. 1. How would you describe your managerial style which you have found to be most and least effective in the work environment of Public Enterprises? Please illustrate.

A. Most Effective Style

- i) Situationist - people and environment specific style (HM, SMK)
- ii) Participative - Close personal contact with employees (RSM, DKG, AS, DIP, SA, SGB, NNK)
- iii) Ensuring involvement of people (ES, II, DW)
- iv) Decentralised management with devolution of authority and accountability at appropriate levels, combined with effective coordination of planning and execution (NPD, NNK)

- v) Objective approach, openness, establishing effective channels of communication, formation of a competent management team (HCG, DLP, MNK)
- vi) Fairness mingled with firmness (GLT, NPD)
- vii) Realistic analysis of problems facing the company and finding solutions (SA)

B. Least Effective Style

- i) Isolated, Dictatorial, Autocratic style - taking shortcuts to complex problems (HVM, HCG)
- ii) Playing safe and ensuring one's continuity as Chief Executive at the cost of decay of the enterprise (RSI)
- iii) High degree of centralisation of decision making even on routine matters (NPD)
- iv) Arbitrary approach/without consulting the people (PNV)
- v) Positional style - Groupism (JIP)
- vi) Management by Wandering (RS) —

Q. 2. Was there any particular experience or event in your career that influenced your management philosophy and **style** and how ? Please illustrate.

- i) Exposure to different types of organisational/ industrial culture in various organisations where served (HVM, SMK, RS)

- ii) Diverse experience and 'on job' learning (HCG)
- iii) Provision of incentives to workers resulting in cooperation (PNV)
- iv) Participation of the managers/people (PNV, SBS, NNP)
- v) Personal demonstration of doing the work by the engineer (DLP)
- vi) Concern for the well being of people - Provision of basic amenities (DKG, DLP, SBS)
- vii) Fair but firm handling of people - No yielding to pressures on unreasonable demands (GLT, SA)

Q. 3. What are the qualities of leadership which promote and hinder the growth of the organisation and how? Please illustrate.

A. Personal Qualities

- i. Total commitment to organisation (RSH, DLP, SBS)
- ii. Sensitive to environment/events (RSH)
- iii. Sincerity of purpose (BS)
- iv. Personal integrity, honesty and sincerity (NPD, LT, SMK, GLT)
- v. Setting personal example - self discipline (NPD, DKG, SMK, DLP, GLT, SBS)
- vi. Broadminded outlook and fair approach (NPD, LT)

- vii. Dynamic disposition (PNV)
- viii. Perseverence to do things against all odds (DLP)

B. Professional Competence

- i. Standing in the profession/discipline (HVM)
- ii. Knowledgeable and competent (NPD, GLT)
- iii. Ability to guide and stimulate interest in subordinates (NPD)

C. Managerial Skills

- i. Ability of analysis and synthesis (HVM)
- ii. Formulation of clear-cut goals (HVM)
- iii. Skill to implement ideas into results and achieve the goals (HVM)
- iv. Competence to take timely, quick and firm decisions (BS, SA)
- v. Fair, friendly and firm management (NPD, HCG, SMK, DLP, SA, SBS)
- vi. Faith/trust in the key personnel and workforce (HCG, DLP)
- vii. Capacity for generating proper organisation culture (NPD, NNK)
- viii. Ability to create environment of openness (HCG, GLT)
- ix. Generating consciousness about cost reduction and productivity (PNV)

- x. Encouragement and appreciation of good work (HVM)
- xi. Tolerance of mistakes/accepting responsibility for things going wrong (HVM, LT)
- xii. Involvement of and consultation with subordinates (NPD, PNV, DLP, SBS, BS, RS, NNK)
- xiii. Genuine interest in well-being of workforce (NPD, LT, SBS)
- xiv. Human approach in dealing with subordinates/workforce (NPD, DLP, GLT)

Q. 4. What are the attributes of organisation culture which contribute to extraordinary performance from persons of average calibre? How do these develop and change? Please illustrate.

- i. Sense of belonging and pride in the enterprise (NPD, DKG, SMK, GLT, SBS)
- ii. Fostering of team spirit (HVM, DLP)
- iii. Commitment/willingness to accept responsibility and sincerity of purpose (BS, DLP)
- iv. Atmosphere of respect and mutual trust (GLT)
- v. Personal integrity and openness (SMK)
- vi. Fair and firm management (DKG, SA)
- vii. Productivity through people (SA)

- viii. Developing second line of command (NPD, PNV, DLP)
- ix. Participation and involvement of employees in management (RSH, LT, SBS)
- x. Employees' motivation (NPD, PNV, GLT, SBS, NNK)
- xi. Employees' high morale and discipline (RS, DLP)

Q. 5. Based on your experience what factors within management control do contribute to high and low performance in public sector environment? Please illustrate.

A. High Performance Contributors:

- i. Building up of an effective and motivated team (HVM, PNV, DLP, SBS)
- ii. Open functioning in the organisation (HVM, SBS)
- iii. Fair, friendly and firm management (HVM, DLP, SA, SBS)
- iv. Broad outlook and fair minded approach (HVM)
- v. Absence of office politics and politiking (HVM)
- vi. Culture of total commitment and total involvement (RSH, RS, GLT, SBS)
- vii. Democratic/participative management style (RSH, HCG, DLP, GLT, NNK)
- viii. Full confidence of Board of Directors in the Chief Executive (BS)

- ix. Harmonious industrial relations (NPD, PNV, SA)
- x. Motivating middle and junior management cadres (NPD, NNK)
- xi. Cost consciousness (NPD, HCG, SA)
- xii. Quality consciousness (SA)
- xiii. Professional knowledge of top management (NPD)
- xiv. Good management reporting systems (NPD, HCG, DLP, GLT, SA)
- xv. Forward thinking (NPD)
- xvi. Proper manpower management and human resources development (HCG, LT, PNV, SMK, DLP, GLT, SA, SBS)
- xvii. Sound decisions at conceptual stage with regard to capacity, location, production mix, technology and methodology of execution (HCG)
- xviii. Quick, bold and venturesome decision making (DKG)
- xix. Reasonable/continuous tenure of Chief Executive (DKG, HVM)
- xx. Emphasis on Research & Development (NPD)

B. Low Performance Contributors:

- i. Groupism/partisan attitude (HVM, SBS)
- ii. Lack of having clear-cut responsibilities and authority (HVM)

- iii. Excess employment (HVM)
- iv. Bureaucratic Culture (NKG)
- v. Unnecessary outside interference (SBS)
- vi. Erosion of autonomy (SBS)
- vii. Over representation of official Directors on the Board of Directors (SBS)
- viii. Lack of vision on the part of top management (NNK)

Abbreviations Used in the Appendix XVI

HVM	Shri H.V. Mirchandani, Ex-Managing Director, Kudremukh Iron Ore Co. Ltd.
RSH	Dr. Ram S. Hamsagar, Ex-CMD, Hindustan Insecticides Ltd.
NPD	Vice Admiral N.P. Datta, Ex-CMD, Mazagon Dock Ltd.
PNV	Shri P.N. Veda Narayanan, Ex-CMD, National Textile Corporation (TN&P) Ltd.
HCG	Shri H.C. Grover, Ex-CMD, Hindustan Fertiliser Corporation Ltd.
RS	Shri R. Subramanian, Ex-CMD, Hindustan Fertiliser Corporation Ltd.
GLT	Shri G.L. Tandon, Ex-CMD, Neyveli Lignite Corporation Ltd.
DLP	Shri D.L. Purkayastha, Ex-CMD, Bongaigaon Refinery & Petrochemicals Ltd.
NNK	Shri N.N. Kashyap, Ex-Chairman, Indian Oil Corporation Ltd.
SA	Shri S. Anandaram, Ex-CMD, Hindustan Shipyard Ltd.
SBS	Shri S. Balakrishna Shetty, Ex-CMD, Hindustan Shipyard Ltd.
BS	Shri Bharat Singh, Ex-Managing Director, Andaman & Nicobar Islands Forest & Plantation Development Corporation Ltd.
LT	Shri Lal Thanzama, Ex-Managing Director, Andaman & Nicobar Islands Forest & Plantation Development Corporation Ltd.
DKG	Shri D.K. Ganguly, Ex-Managing Director, Andaman & Nicobar Islands Forest & Plantation Development Corporation Ltd.
SMK	Shri S.M. Krishnatre, Ex-Chairman, Andaman & Nicobar Islands Forest & Plantation Development Corporation Ltd.

(c) increases in costs of material inputs, wages, other manufacturing costs, market trend and other external factors like power, taxes. Operating budgets for non-plan expenditure are prepared taking into account factors like increases in cost of inputs, transfer of completed plan projects to non-plan expenditure. Replies reveal that there are several external and internal constraints in preparing capital and operating budgets in tune with the five year investment and annual plans. In capital budgets, the constraints are mainly external, relating to permissible use of internal resources and Government budgetary support. In operating budgets, the constraints are both internal and external. The former mainly relate to limitations on production potential due to old plant and equipment and obsolete technologies; inferior and substandard quality of raw material; and uncertainty of prices of raw material and finished products. The important external constraints are unfavourable market conditions for the finished products within the country and in the world markets, erratic power supply, short supply of imported inputs etc. One of the high performing enterprises, the ONGC, had reported no constraints in the preparation of budgets. The funding of the budget proposals, both capital and operating, is entirely through internal resources and